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CEREBRO-SPINAL MENINGITIS.¹

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The recent outbreak of this disease was at first most in evidence amongst the recruits in various military camps, and has only recently become more prevalent amongst the civil population.

As each camp may be regarded as a restricted community, and a community about which it is easy to acquire certain data and statistics, and as the epidemic of cerebro-spinal meningitis amongst the troops was evidently not due to introduction from without, by men returning from leave, the conditions are highly suitable for a study of the outbreak, its incubation period, if any, and other problems.

I must for the present confine my remarks to one camp, with which I am familiar, and to a limited period, August 1st to September 3rd, 1915, since I have only been able to obtain the information required for this period.

The camp is occupying the various buildings situated in the Agricultural Societies' Show Grounds, Flemington, and there is a dependent camp in the pavilions of the V.R.C., on the Flemington Race Course, some three-quarters of a mile distant from the main Show Grounds camp. The main camp contains approximately 4,000 troops, the Flemington Race Course, approximately 1,500.

During the month of August an isolation camp was established on the grounds of the Ascot Race Course, where contacts of cerebro-spinal cases were isolated under canvas. This isolation area lies half a mile from the Show Grounds camp, and about a mile from the Flemington Race Course.

The number of cases of cerebro-spinal meningitis for this camp, which I have been able to trace for the period August 1st to September 3rd, is 36.

These cases are widely distributed amongst the various "companies," into which the recruits were subdivided, and occurred in both camps. In the Show Grounds each company generally occupied its own building, but occasionally one company would have its quarters in two separate buildings.

As Camp Sanitary Officer, I have had the opportunity of inspecting and becoming thoroughly familiar with the quarters of every company in the Show Grounds. I have also seen the men quartered in the various stands and pavilions on the Flemington Race Course, and I may say at once that the cases of meningitis were not related to the merits or demerits of the men's quarters. Some of the least favourable quarters have been comparatively free, and some of the best quarters have had their cases.

A number of cases occurred at the Flemington Race Course, where the men sleep on the pavilion seats, with abundant fresh air, and take their meals in the open.

The following list shows the cases of meningitis in each company, and the quarters of the company:

Coy.	Quarters.	Menin- gitis Cases.	Remarks.
B	Cattle and Horse Boxes, Peppin Street	1	
C	District Exhibits	1	
F	Flemington Race Course	1	
G	Cattle Pavilion; District Exhibits	1 1 1 1	Occupied two distinct buildings; Cattle Pavilion abandoned
H	Flemington Race Course	1	
I	Poultry Sheds; Vance's Tea Rooms	1 1 1 1	Two buildings occupied; 2 cases from better quarters
K	Dog Kennels	1 1	
M	Sheep Pens	1 1 1	L Coy. shared the same quarters, but had no cases
N	Horse Boxes	1	
P	Poultry Sheds	1	
Q	Cattle Stalls, Wilson Av.	1	
R	Cattle Sheds, Wilson Av.	1	
S	Flemington Race Course	1	
T	Flemington Race Course	1	
U	Thomson Street	1	
V	Cattle Stalls	1	
	Officers' School		

(Two other cases from odd quarters)

The conclusion is that the outbreak in the camp was unrelated to the hygiene of the quarters.

Incubation Period.

Some degree of uncertainty exists as to what may be considered the incubation time of the disease.

Heiman and Feldstein, in their book, "Meningo-coccus Meningitis" (Lippincott) quote 3 to 5 days.

Knowing that many apparently healthy individuals (at least 20 for every case, according to evidence previously obtained from other epidemics) carry the specific organism in the throat or nasopharynx, it was expected that nothing in the way of a definite recurrence period would be found on examining the camp statistics.

It is extremely interesting, therefore, to find a definite 10 to 12 days' recurrence of the outbreak. Naturally, the sharpness of each group of cases is gradually being lost, the latest group being spread over a period of 4 to 5 days, the previous group 3 days, whereas the group prior to this one was almost sharply on a single day. Each case is entered for that date upon which a definite diagnosis of cerebro-spinal meningitis was first made. In a few cases the sufferers had already been a week in the Base Hospital for influenza (?) before the symptoms pointing to meningitis occurred. Usually, however,

¹This posthumous communication was corrected in proof by our lamented colleague on his bed of sickness, and permission to publish it has been obtained from his relatives.

the onset was dramatic, and the diagnosis made at the camp itself.

The following analysis shows the 10 to 12 days' period in the outbreak:—

Cases	August															September																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3
Cases	1													1	1	1		1	1	1				1	1	1		1	1	1		
Totals	1													1	10	3		1	1		3	3	5		1	2		1	1		1	2

If this period is the usual incubation time, then the odd case on the 16th August may have given rise to the August 27th-28th group of three cases; but be this as it may, the sharpness of each group was found to diminish. It seems as if the recent cases have probably arisen not from previous known cases, but from carriers showing no symptoms of the disease.

Isolation.

During August it has been the custom to isolate all men sleeping in the immediate neighbourhood of any man falling a victim to the meningococcus.

This meant that some 20 to 40 of the closest neighbours of the sick man were sent over to Ascot.

In the period to date these "contacts" were kept isolated for eight days, and, if well, were then allowed to return to the Show Grounds or their quarters on the Race Course. This eight-day isolation was based on the statement of Heiman and Feldstein, previously referred to, that the incubation period was 3 to 5 days for the disease, but from the camp statistics it would appear that twelve days' isolation would have been more rational.

However, that no error of any consequence was made by having an eight-day isolation period is proved by the fact that no single case of meningitis has occurred up to date amongst the men isolated as close contacts of meningitis patients.

It is possible to go further, and to state that not one of the 36 meningitis patients has ever had his name on the roll books of the Isolation Camp, Ascot.

In all, 425 men passed through this camp between August 10th and 31st.

It is perhaps paradoxical to state it in this way, but the safest men appear to have been those isolated as contacts.

Propagation of the Disease.

There is a great deal to be said in support of the view that the danger lies with the wide distribution of catarrhal cases throughout the camp.

A great deal of indiscriminate coughing has been taking place throughout the camps, and the men are often in close contact, wrestling together, crowding into the entertainment tents and in their quarters.

The men quartered on the Race Course come into contact with those in the Show Grounds at the evening concerts.

Mild Cases.

It is highly probable that these exist. Five men were admitted to the Base Hospital on August 5th. The illness of these men was first recognized to be

meningitis on August 12th, the day when a number of dramatic onsets occurred at the camp. Again, several patients were sent to the Base Hospital, on and about August 22nd, without a definite diagnosis: these men were still in the hospital on September 3rd. If they were suffering from influenza or severe cold, they have taken a long time to get well. On the other hand, the date of their illness corresponded to that of a group of definite cases of meningitis.

In conclusion, the following points seem clear:—

- (1) A wide distribution of the disease, unrelated to the hygiene of the quarters;
- (2) An eleven-day period in the outbreak; and
- (3) The safety of the immediate contacts of definite cases.

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HYPONOPLASIA OF THE TEETH.¹

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A remarkable feature noted in immigrant children during the past three years is the frequency of a peculiar formation of the teeth, called "honeycombed" teeth, or hypoplasia.

Of 141 immigrant children 15, or 11%, had definite honeycombed teeth, 9, or 6%, had marked patchy opacities, and 117, or 83%, nothing special noted. Eleven per cent had full-grade hypoplasia of the teeth, a condition rarely seen in the Australian-born (probably not one in a thousand), and 17% altogether had dental peculiarities uncommon here in Australia.

The majority of the children showing this curious condition came from large cities in the United Kingdom—Oldham, Huddersfield, Bolton, in the North of England, Bristol, Paisley, and London. All showed definite evidence of rickets elsewhere, though only in slight degree.

Honeycombed teeth are opaque, dark, even buff-coloured, and possess marked depressions, pits and gullies, sometimes transverse constrictions along the biting edge and adjoining surface of the crowns of the teeth. The incisors, canine and first molar of the permanent set are affected, not the bicuspids, or second and third molars. The incisors are crinkled

¹ Read at a meeting of the Melbourne Paediatric Society in September, 1915.

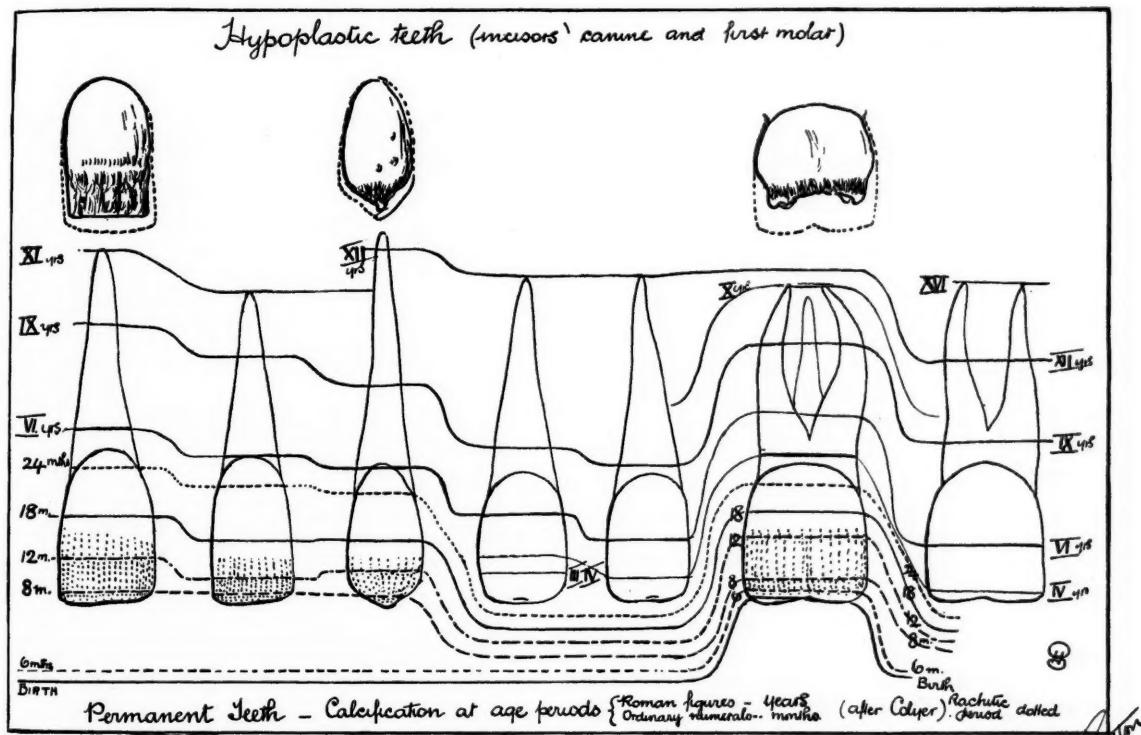
towards the edge; the canine and molar have little peaks, like solitary, waterworn, sandstone pinnacles. The part affected in all these teeth is developed in the permanent dental germ at one time from about 6 months up to 12 and 18 months. The enamel cap and dentinal arch are then laid down and calcified, while the dental germ is still deeply imbedded in the jaw.

The time incidence of the dental disturbance agrees closely with the appearance of rickets, a disease affecting children, chiefly the artificially-fed from 6 months up to 18 months or 2 years.

Its effect on bony and similar tissues is, as is well known, to upset the deposit of mineral matter (calcium). The epiphyseal lines take on a markedly

Such teeth do not seem more susceptible to caries, but rather less. The molars should they become carious, crumble slowly and present hard, rocky, irregular surfaces, dark-brown in colour. The increased density of dentine reminds me of the hard ivory character of rachitic bones, so well-known to the orthopædical surgeon. The time incidence, the histological seat of attack, and the signs of rickets invariably associated, all point to a rachitic basis.

In the Australian-born, however, in whom mild degrees of rickets are common (20% to 30%), hypoplasia is very rare. It occurs in less than one in a thousand, and is then only found in subjects with marked rickets. Evidently some second factor ex-



irregular overgrowth, e.g., rib-beading, and imperfect, unduly plastic bone is laid down.

Only occasionally does rickets affect the teeth. My observation points to two alterations, one the less characteristic, consisting of irregular white opacities, seen chiefly in the incisors, and the other the honeycombed or hypoplastic teeth. Very irregular calcification of the enamel, and probably also of the dentine, occurs, with loss of translucency of the enamel, as well as marked alteration in the growth and shaping of the crown of the tooth, near the biting edge, confined to just that transverse belt which is being formed at this period; 6 to 18 months. (See plate.)

ists to cause hypoplastic teeth to be 100 times more frequent in the immigrant, and to be found in them in association with a slight degree of rickets. A possible explanation of the difference may be in the hard water supply of many English and Scotch towns, as contrasted with the soft water of our Victorian reservoir and tank supplies. It will be seen that this condition would be met with in artificially-fed children, in whom rickets predominates (40% of all artificially-fed before six months of age become rachitic).

Rickets, added to a hard water supply, appears therefore to be especially liable to cause honey-

combed teeth, and hence their frequent existence in the immigrant.

Since making the above observations, I have looked up various authorities, notably Colyer to whom I am indebted for the diagram (modified) showing the dates of calcification in the permanent dental germ.

Marfan alludes to grooving, cusp dystrophy, honeycombing and other enamel defects, and concludes that pyrexia, mercury or convulsions, to which these conditions had previously been attributed, are not causative agents. He records the association of zonular cataract; I have been unable to confirm this. He distinguishes honeycombed from the Hutchinsonian types, but holds the opinion that eroded teeth with rickets point to a syphilitic basis. The rarity in the Australian-born, in whom congenital syphilis is not rare (? 10% to 15%), and its abnormal frequency in immigrants, practically disproves this. I have been unable to find any definite association with syphilis.

Pickergill points out the distinction between these defective teeth, non-syphilitic and the microdontism and diastema found in the syphilis.

Colyer gives the best description. He describes the spiny and pitted appearance, and asserts that the change occurs sometimes on the neck of the deciduous teeth. He disagrees with Jonathan Hutchinson's statement of its association with mercurial stomatitis. Convulsions in infancy are only related to honeycombing as effects of a common cause. In view of the relation of calcification of enamel and time of activity of the change, the cause must act during the first two years of life. It has been noted in animals (lions and monkeys) suffering from rickets. Exanthemata (measles and scarlet fever) cause a single transverse constriction, usually higher up on the tooth. Hereditary influences may come in, as it has been observed over five generations. He quotes two interesting researches conducted in England.

(1) Kingston Barton, on the association with artificial feeding and lens changes, in 202 children, 54 completely breast-fed showed no hypoplasia, in 67 hand-fed, 15 showed these defects. In lamellar cataract, 22 out of 26 children had hypoplastic teeth.

(2) Spokes, in 258 public school boys, found 4.6% affected, in 1463 poor law scholars, 7%, and in an ophthalmic school, 15%. Spokes' observations confirm my own in immigrants. He shows, in addition, its social variation in incidence in England.

The children examined here come chiefly from an industrial class (skilled workmen), were reared in large cities, and were definitely rachitic. The fathers' occupations in 107 families were: professional (soldier, sailor), 5; domestic (laundress, etc.), 4; commercial, 8; transport (drovers, etc.), 11; industrial (chiefly foundry-workers), 70; primary producers, 9. Being in urban areas, farmers hardly appear, while domestic servants, being unmarried, do not tend to be represented in school life. They all came from England and Scotland (four times as many English as Scottish).

As immigrants form 4% of the school population, and it is over 100 times as frequent in them than in

Australian-born, the chances are at least 4 to 1 in favour of the possessor of these curious teeth being born overseas, so that I have found it an amusing example for guesses of a Sherlock Holmes' type. Its chief medical interest is in its distinction from the well-known Hutchinsonian syphilitic teeth, and in the suggestion of a double cause, both dietetic, the artificial feeding causing rickets and the unusual calcium content of the water (the permanent hardness of soluble calcium salts is unaffected by heat), finally determining the dental changes.

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THE SURGERY OF THE BRACHIAL PLEXUS.

Part II.

THE SURGERY OF CERVICAL RIB.

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(Continued from page 395.)

G.—Morbid Physiology.

The average age at which symptoms occur is about 33 years. The youngest patient was nine years of age, and the oldest 54 years of age. Women are much more frequently affected than men, the proportion being 9 to 1. The symptoms are usually unilateral, in spite of the fact that the ribs are bilateral.

The Causation of the Nervous Symptoms.

The nervous symptoms usually occur late in life. No satisfactory explanation has yet been brought forward for this, but the most popular theories which have been offered are the following: (1) That it is due to the slow growth of the rib occurring chiefly between the cartilage and the anterior end of the bone (Murphy). The rib usually ends abruptly, and the tip consists of a bony shell, which is denser than the interior. This theory fails where the first rib is the culprit. (2) That the soft structures become less elastic as the patient grows older, and become less adaptable to displacement. It may be remembered that arterio-sclerotic arteries lose their elasticity, and changes in the walls of the affected vessels are more likely to occur from slight trauma. (3) That a loss of tone of the muscles leads to a relative sinking of the shoulders on to the thorax (Keen). This increases the angulation of the structure passing over the rib. This theory is the most probable one, since all viscera tend to drop throughout life.

Attempts have been made to explain the fact that a pathological effect of cervical rib is much more common in women than in men.

It is an old observation that the shoulders drop back as growth proceeds, and it is also a matter of common knowledge that in the female they drop back further than in the male. This is well marked in cases of muscular relaxation, such as occurs in visceroptosis after parturition and ill-health, etc. In a child the clavicles rise from their sternal ends

as they proceed outwards; in men they are nearer the horizontal, and in adult women they not uncommonly slope downwards.

Unilateral symptoms are usually produced by two factors. The first is the overuse of one limb, and the second that cervical ribs are usually not symmetrically developed.

The motor and sensory symptoms are caused by pressure of an abnormal arch on the caudal extremity of the brachial plexus. The site of pressure may be fibrous or bony. The fibrous portion of the costal arch is tightened in inspiration, since this band is attached behind the transverse axis of rotation of the first dorsal rib. Traction on the arm at operation causes this band to tighten, and as it tightens the nerves crossing it are partly lifted forwards, and partly rolled over, and are damaged in this way (P. Sargent). When the lower roots of the plexus lie on the bony part of the rib, pressure symptoms may arise.

In regard to the cause of the vascular symptoms, there are two main theories. The one is based on the mechanical pressure on the artery, and the other on sympathetic disturbance.

Mechanical pressure on the subclavian artery may be exercised by the cervical rib (Halbertsma and Luschka). Dr. Todd is of opinion that the sigmoid curve is sufficient in the majority of cases to prevent a stretching of the vessel over the rib. According to Sue, if the thorax is of greater length than normal, the arteries also develop *pari passu* in length.

The artery may be compressed between the rib and *scalenus anticus* (Murphy). This has been noted in Borchardt's and Keen's cases and several others.

The theory that the vascular symptoms are caused by mechanical pressure has been questioned. On the other hand, the common nervous symptoms have been proved to be due to this cause (Thomas, Cushing, Sargent and others). It has been determined that the artery ascends higher into the neck in subjects with a cervical rib, and forms a more acute curve downwards towards the axilla.

On the removal of the rib by operation, the artery often sinks into the soft tissues of the neck, as a result of the relief of tension, and the vascular symptoms clear up within a short time. A further argument used in support of the mechanical theory is that the pulse may disappear on deep inspiration.

The following observations may be quoted against the mechanical theory. It is difficult to explain the development of gangrene as a result of slow compression; as a rule, the collateral circulation develops rapidly. If the mechanical theory were correct, the vascular symptoms, such as vaso-constriction, atheroma, etc., would be best marked at the site where pressure is said to occur, and not in the hand, as in Telford's case. In one of his cases, Telford detached the subclavian artery completely from the surrounding tissues, without producing any effect on its shape, size, or pulsation. He was able to show that, owing to its wide and tortuous curve, the artery could not have been exposed to pressure

by the abnormal rib, and, furthermore, that it was not compressed by any manipulation of the limb.

Dilatation would be present on the proximal side of the point of constriction and not to the distal side. The latter, however, is not uncommon, e.g., Keen's case.

The following facts are in favour of sympathetic disturbance. The onset of symptoms may be similar to that in Raynaud's disease, and the occasional occurrence of oedema suggests that the nervous supply of the blood vessels is damaged. In the next place, the anatomical position of the sympathetic fibres supports this theory. In the third place, characteristic sympathetic symptoms are occasionally noted in connexion with cervical rib. Keen has described four cases in which unequal pupils, unilateral sweating, or alteration in the palpebral fissure indicated pressure of an abnormal rib on the cervical sympathetic. It is doubtful, however, whether diminution of the pulse on the affected side is due to sympathetic influence alone. The fact that the act of raising the arm at times restores the pulse would rather favour the theory of a kinked subclavian artery. After the patient has recovered from the anaesthetic for an operation for the removal of the cervical rib, the pulse on the affected side occasionally becomes equal to that on the other side. This restoration of the normal pulse rhythm does not usually take place in nerve injuries. Babcock and Keen have pointed out that it is rare for pulsation to return immediately after the removal of the rib.

To sum up, it may be stated that both these factors are probably at work. The symptoms simulating Raynaud's disease are probably due to sympathetic phenomena, and the temporary alteration in the pulse is probably mechanical.

H.—Diagnosis.

The diagnosis usually depends on the results of radiography. Whenever a cervical rib exists stereoscopic or both lateral and antero-posterior pictures should be obtained. A very different impression of the length and direction of an accessory rib is obtained to that produced by a single plate. To distinguish whether it is a cervical rib that is present or an abbreviated first rib, the spine should always be taken from above downwards, so that vertebrae can be counted. The most satisfactory method is that of Gilbert Scott. A shot is fixed to the skin in the mid-cervical region. Lateral and antero-posterior skiagrams are taken, the tube being centred over the lead shot. The level of the vertebra corresponding to the shot is determined from the lateral picture. The method of placing a shot over the spine of the *vertebra prominens*, or of determining the level of the spine by the inclination of the transverse processes is not very satisfactory. It is very difficult to lay down a rule as to what should be regarded in a skiagram as a cervical rib. The symptoms do not depend on the size of the bony rib; on the one hand it is quite possible for a complete bony cervical rib to be present without any symptoms, and on the other hand a costal process which appears to be normal in the

radiogram may cause symptoms, owing to the presence of a tense fibrous band attached to its extremity. As a rule cervical rib cases causing symptoms and requiring operation present a definite abnormality of the costal process. At times symptoms have been produced by an apparently normal first rib, and have been cured by its removal (Thomas Murphy's case, *The Australian Medical Journal*, October, 1910). The ribs found are usually small, and belong to Gruber's second and third types. It has been noted that those ribs which grow straight out from the spine, or incline a little backwards, and are therefore most conspicuous in the skiagram, do not usually produce symptoms. Those which grow forwards, or forwards and downwards, often give rise to injury to the brachial plexus.

Differential Diagnosis.

The condition must be distinguished from old standing acute anterior polio-myelitis. The onset in the latter condition is usually distinctive, and the course typical; the maximum effect appears at the onset, and diminishes in the course of time. Sensory changes are usually absent in this condition. The second affection from which cervical rib must be differentiated is chronic anterior polio-myelitis (progressive muscular atrophy). This is usually more or less symmetrical. A selective picking out of the muscles does not occur. The sensory changes are absent, and the muscles rarely show a complete reaction of degeneration; a simple diminution of the response to galvanic and faradic currents is more usual. In the third place, syringomyelia must be excluded. The changes in syringomyelia are not as a rule limited to the eighth cervical and the first dorsal roots. In addition, ocular changes, well marked sensory dissociation, and changes in the reflexes occur. In peripheral neuritis, the muscular wasting and sensory loss do not follow a root distribution. Uniradicular palsy of the brachial plexus, a vascular lesion of first dorsal root, which was described by Farquhar Buzzard, can be distinguished by a skiagram.

I.—Treatment.

Palliative Treatment.

Under palliative treatment some of the early cases show decided improvement. The pain ceases, and muscular wasting is arrested. The hand becomes useful, though it is not restored to a normal condition. Although in the majority of cases no effect is produced, it is well worth a trial.

The arm should be rested as much as possible, and all work should be stopped for a time. All movements and positions likely to produce a drag on the plexus should be avoided.

For pain linaments or blisters may be used as counter-irritants. A constant current may be applied to the painful areas. The anode should be the active electrode, and a current of 8-10 milliampères should be employed.

A great deal can be done to arrest muscular wasting in the milder cases by massage and the application of the galvanic and faradic currents of a sufficient strength to produce moderate contractions of the affected muscles.

When the pain has subsided any drooping of the shoulders present may be treated by massage, electricity and exercises to the scapulo-spinal muscles.

Radical or Operative Treatment.

The radical treatment should be undertaken when the pain is severe, or is not relieved by other measures, when marked sympathetic phenomena occur as marked congestion, anaemia, etc., or when there is threatened gangrene.

The following considerations should be borne in mind when operative treatment is undertaken. The cervical rib lies much higher in the neck than would be expected, and the first dorsal rib has in several instances been removed by mistake. The fact that it articulates with the sternum, and reference to the skiagram should prevent this mistake being made. A cervical rib is often very difficult to find. It is usually short, and only projects one or two inches beyond the tip of the transverse process. The tip is often embedded in the *scalenus medius* and *posticus*, which must be separated by scissors or knife from the rib. It is advisable to attempt to approach the rib behind the plexus, instead of retracting the plexus forwards. The latter method often leads to a more or less complete partial paralysis of the whole arm, and especially of the deltoid group of muscles, without any obvious injury being done to the plexus. Blunt dissection should be employed to prevent bleeding. Special care should be exercised lest the suprascapular nerve be injured. The rib should be attacked as near to the vertebral column as possible, and then cut through at its base. This should be done from behind forwards; the rib should be freed by dissection, and the anterior end dealt with last of all.

It is important that the ends of the stumps left should be as small as possible, and rounded off by a rongeur forceps to avoid pressure on the adjacent structures and pain being caused.

The rib, with its periosteum, must be removed. Although this makes the operation much more difficult, it is necessary because new bone may form after sub-periosteal dissection, and the symptoms may recur as in Webber's and Beck's cases. Percy Sargent, however, states that division of the continuing fibrous band is often sufficient, and removal of the rib is not always necessary.

There are three methods of approach for the removal of a cervical rib, viz., the anterior, lateral, and posterior operations, of which the first is the most difficult.

Anterior Operation.

The incision is practically the same as that used for tying the sub-clavian artery. A three-inch incision is made, starting from the posterior border of the sterno-mastoid, and directed backwards and outwards, one inch above, and parallel to the clavicle. The rib is then exposed by deep dissection, and the vessels are tied and divided *seriatim*. The disadvantage of this means of approach are that the complete removal is very difficult owing to the smaller area of the field of operation. The numerous muscular attachments of the rib, the venous-bleed-

ing, and the resulting tender scars are serious disadvantages of the method.

Lateral Operation (Thorburn).

A vertical or hockey stick incision is made over the anterior edge of the trapezius, and the dissection is carried on between the posterior border of *scalenus medius* and *levator anguli scapulae*. The plexus is more or less protected by the thickness of the *scalenus medius*, but care must be taken to avoid the nerve to the seratus magnus, as it pierces this muscle.

Posterior Operation.

A vertical incision is made one inch from the spinous process, with its centre at the level of the seventh cervical spine. The trapezius is then reflected forward, and the rib is exposed from behind. The rib is first detached from the transverse process and body of the vertebrae; it can then be readily controlled, and the artery and nerve pushed forward.

Results of Operative Treatment.

Early diagnosis is very important. As a rule pressure on a mixed nerve causes sensory changes long before the motor symptoms develop. Were the operative results better, operations should always be performed in this stage, since recovery of a sensory loss occurs more readily than recovery of a motor loss. In a moderately advanced case the symptoms most likely to be relieved are the sympathetic or vascular symptoms, and pain. Paralysis and wasting are not likely to be cured, but may be relieved. The mortality of the surgical treatment of cervical rib is practically that of anaesthesia. Keen, in his monograph, states that not a single patient died as the result of the operation, nor was a single one seriously ill, except in those few cases in which other diseases of the nervous system were present.

The technique of the operation needs considerable improvement. In a large proportion of cases some symptoms, such as pain and weakness of the arm, follow the operation, and last for two or three months.

Thorburn has published the result of 20 cases of cervical rib, for which an operation had been undertaken. The results were as follows:—Pain was cured in 12 cases (80%), and relieved in 3 (20%). Five patients could not be traced. In the majority of cases the patients were therefore relieved or cured of pain.

Paralysis was cured in 5 (50%), and relieved in 5 (50%). The impairment of sensation was relieved in all, but not cured in any. Tactile sensation usually becomes normal, but some alteration in the temperature sense usually persists. Marked improvement after operation takes place as a rule if the operation has not been delayed too long.

Wasting usually persists.

Certain accidents and injuries have occurred during the course of operation for the removal of a cervical rib. The brachial plexus may be injured. Complete or partial paralysis of the whole arm may follow. The deltoid group of muscles are especially

affected. The paralysis occurs without any obvious injury being done to the plexus at the operation, but fortunately it is only temporary, and usually clears up in from two weeks to four months. It follows from this that the greatest gentleness must be exercised, and that the work must be carried out mainly under the guidance of sight. Bony points should not be sought with the finger lest the nerves be bruised, and in all cases the tissues should be handled with caution. The posterior thoracic nerve may also be injured. The course of this nerve renders it peculiarly susceptible to injury during the necessary manipulations for the removal of the cervical rib. Injury to the rhomboid and suprascapular nerves may also take place. This leads to wasting of the supra- and infraspinati and rhomboids.

Injury may be inflicted to the thoracic duct, especially when the anterior route is employed.

Pneumothorax may be produced by extensive opening of the pleura. The opening of the pleura is not as a rule followed by bad results. Slight pleural pain, lasting for two or three days, may be caused.

More or less severe pain in the neck, shoulder or arm may be caused. This usually lasts for one to three months.

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Reports of Cases.

FIVE CASES OF CEREBRO-SPINAL MENINGITIS.¹

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The following notes refer to five cases of epidemic cerebro-spinal meningitis, which have been under the care of Dr. Turner at the Hospital for Sick Children. I wish to record my thanks to Dr. Turner for permission to publish them.

Case I.—The patient was female, aged 2 years. She was admitted to hospital during a convulsive seizure. Her temperature was 104° F. She had apparently been in perfect health until two days prior to admission. The convulsions occurred suddenly, and continued until her death, three days after the onset of illness.

On admission there was marked retraction of the head. Kernig's and Brudzinski's signs were positive. There was a purpuric rash on the legs and buttocks.

At the first lumbar puncture, the fluid was found to be under markedly increased tension. It was clear. No meningoocci were found. Five drachms were drained off.

The tension was still increased when the second lumbar puncture was carried out. The fluid was turbid at this time, but no cocci were found. Six drachms were removed.

Meningoocci were recovered from the urine. The child's temperature at death was subnormal.

Case II.—The patient was a female, aged 7 years. She was admitted to hospital with a temperature of 102° F in a stuporous condition. There was a history of malaise of four days' duration and frequent attacks of vomiting. No convulsions had occurred.

On admission marked retraction of the head and general rigidity were noted. There was a profuse petechial rash over the whole of the limbs, trunk and face. Kernig's sign was positive.

Lumbar puncture was carried out four times during the illness. At the first, the fluid was under increased tension and was turbid. Pus was found and meningoocci were isolated. The quantity of fluid removed was six drachms. The second puncture was made 14 hours later. The tension was still positive. The fluid contained a larger deposit, and meningoocci were present in abundance. Six drachms were drawn off. Four hours later the third lumbar puncture was undertaken. The tension was still high. The fluid was very turbid. One ounce was removed. The last puncture was carried out 19 hours later. The fluid was still turbid, and meningoocci were present. The tension was only slightly increased. Five drachms were removed.

No convulsions developed, but the fever continued. The child died 40 hours after admission, the temperature being 105° F immediately before death.

Case III.—The patient, a male infant, aged 15 months, was admitted on account of burns on both arms. Three days after admission the temperature began to rise, and for two days remained over 106° F. The fever was regarded as a sign of shock and toxæmia. On the evening of the fourth day, retraction of the head was noted, and on the following morning there was a blotchy rash over the buttocks and legs. The child died on the same morning. Lumbar puncture was performed post-mortem. The fluid was turbid, but no diplococci were found.

Case IV.—This patient was a male child, aged 3½ years. He was in convulsions when admitted. According to the

¹ Read at a meeting of the Queensland Branch of the British Medical Association on September 3, 1915.

mother's account, the child was in apparently good health up to 5 hours of admission.

The temperature was normal at the time of admission. The skin was blue and there was marked rigidity. Mild convulsive movements were present. The child was in a condition of stupor. No rash was seen.

Lumbar puncture was carried out. The tension of the cerebro-spinal fluid was increased. The fluid itself was turbid, but no meningococci were found. A second puncture was carried out later, when the tension was found to be higher and the turbidity more marked. Meningococci were isolated from the sample removed. At the first puncture, 5 drachms and the second 6 drachms were drawn off. The temperature rose continuously up to the time of death, which occurred 30 hours after admission. Prior to death, it was 106° F.

Case V.—A male child, aged 2 years, was admitted for pneumonia. Four days later he developed symptoms of meningitis. There was retraction of the head, Kernig's sign and a purpuric rash. The child was quite apathetic.

Lumbar puncture was performed five times. The fluid was found to be turbid at the first. The tension was positive. Four drachms were removed. The second puncture revealed a similar condition. Two drachms were removed. In the fluid drawn off at the third puncture, meningococci were found. Five drachms were drawn off. The tension was lower at the fourth puncture, when three drachms were removed, but the sample still contained meningococci. At the last puncture, the fluid was almost clear. The tension was practically normal. No bacteriological examination of the cerebro-spinal fluid was carried out. The rash disappeared after 3 days. The retraction of the head is still present, but is much less. The general apathy has disappeared, although the temperature still remains raised. The child is remarkably hungry and cross.

Reviews.

TREATMENT.

The seventh edition of *An Index of Treatment*,¹ edited by Robert Hutchison, in association with James Sherren, is to hand. The first edition was published in November, 1907, and the sixth edition in October, 1911. The present edition contains some new articles, including those on sterility, radium-therapy, and the psychoneuroses. All the other articles have either been revised or re-written. There are eighty-nine contributions to the work, which deals with practically every branch of medical and surgical treatment. Even an uncommon infirmity such as intermittent claudication is dealt with. The management of labour, however, has not been regarded as falling within the legitimate scope of the book. As a standard work of reference for the physician, surgeon and specialist it is invaluable. At the same time its eleven hundred pages contain some points calling for criticism.

In the paragraph on achylia, Robert Saunby says that "treatment aims at securing the passage of food as soon as possible into the bowel." Some expert radiographers assert that, in *achylia gastrica*, rapid emptying of the stomach is one of the features of the disorder. In the article on adenoids, by G. C. Cathcart, an excellent series of physical exercises is described. He points out, presumably in reference to juvenile patients, that "the difference between full inspiration and full expiration should be four to six inches." It may be questioned whether this is the usual standard. Lockhart Mummary, dealing with surgical shock, deprecates the use of strychnine and other stimulants, but perpetuates the old error of advocating adrenalin. Adrenalin is a very dangerous drug. Edwin Bramwell, in his article on tabes, points out that mercury is contraindicated in optic atrophy, but, in describing the method of administering mercury for tabes, he recommends the axilla as a good site for inunction. The axilla, in common with

other hairy parts, should be avoided. Sir R. W. Philip devotes twenty pages to pulmonary tuberculosis, and an additional article to haemoptysis. He makes the following statement in regard to tuberculin treatment:—"In proportion as the disease is localized and the systemic disturbance is relatively slight, tuberculin is likely to be of service. The defensive mechanism must be capable of ready response. If, contrariwise, the system is already saturated with tuberculous toxins, the exhibition of tuberculin may serve to aggravate the condition." Many physicians will dissent from this distinguished writer's advocacy of the habitual consumption of alcohol in the form of spirits, wine, ale, *et cetera*, in pulmonary tuberculosis. Further, he seems to have forgotten his pharmacology when he recommends *spiritus ammon. aromat.* to be administered in lemon water. Robert Hutchison advocates the free use of stimulants and hyperdermic injections of strychnine until symptoms of spasm appear in the treatment of snake bite. Few people will agree with him on either point. The late Dr. Huxtable, of Sydney, found that snake bite was nearly ten times as fatal when treated with strychnine as without it. Thomas J. Horder's contribution on specific therapy is incomplete and unsatisfactory. The doses of diphtheria antitoxin recommended are smaller than those used by Australian practitioners. We have sought in vain in J. G. Turner's account for any reference to the causative amoeba and the treatment by emetine. E. W. Goodall recommends truly heroic doses of opium for the treatment of epidemic cerebro-spinal meningitis.

Probyn Williams contributes the article on anaesthetics. He is of opinion that ethyl chloride is not nearly so safe as nitrous oxide and that it is probably more dangerous than ether. When he says that ether should not be given in eclampsia he is not on safe ground. Ether is the anaesthetic which should be given, since chloroform, by causing or aggravating the condition of acidosis, may determine a fatal issue. Not every anaesthetist will agree with his recommendation to give chloroform to a patient already under ether, if the surgeon requires greater muscular relaxation. In this article, also, we find the erroneous advocacy of intravenous injection of adrenalin for shock. J. Ernest Lane insists that salvarsan alone does not cure syphilis, and that it should always be given together with mercury. Edwin Bramwell expresses a similar opinion, but holds that the action of salvarsan is more rapid than that of mercury. William Hunter, writing of purpura, insists that this condition is a symptom, not a disease, and is most usually associated with conditions of a septic nature. W. J. Hadley's observations on the administration of alcohol in pneumonia are absolutely sound, and should be followed faithfully. A most excellent article on stammering is contributed by Robert Worthington. It covers nine pages, and includes a description of an extensive series of exercises employed in treating this affliction.

The illustrations are mainly of surgical interest, and do not greatly enhance the value of the work.

Naval and Military.

Honorary Major W. Chisholm, of the A.A.M.C. Reserve, has been gazetted on October 13, 1915, as a Major in the A.A.M.C.

The Army Corps Routine Orders of June 29, 1915, contain the following notice:

153.—Complimentary.—The Army Corps Commander has very much pleasure in publishing the names of the junior regimental officers, warrant officers, N.C.O.'s and men, in the attached supplement, which have been brought to his notice for having performed various acts of conspicuous gallantry or valuable service during the period from 25th April to 5th May, 1915. He cordially thanks them for the good work they have performed, which more than ever testifies to their devotion to duty towards King and country. His only regret is that they cannot all be rewarded.

In the list that follows, under the heading of Australian Army Medical Corps First Field Ambulance, the name of

¹ *An Index of Treatment* by various writers, edited by Robert Hutchison, M.D., F.R.C.P., and James Sherren, F.R.C.S. Seventh edition, revised and enlarged; 1915. Bristol: John Wright and Sons, Ltd.; demy 8vo, pp. 1143; 82 illustrations.

Captain C. E. Wassel appears. Under the sub-heading Second Field Ambulance, the name of Captain R. W. Chambers, under the third sub-heading, Third Field Ambulance, the names of Captain D. M. McWhae and Captain H. K. Fry, and under the sub-heading Second Australian General Hospital, the name of Captain W. Benjafield are included.

The following appointments have been announced in the *Commonwealth Gazette* No. 131 under date of October 21, 1915:

1st Military District.

Australian Army Medical Corps Reserve—

Clifton Leonard Thompson and Percy Frederick Noney to be Honorary Captains.

2nd Military District.

Australian Army Medical Corps Reserve—

Robert Thomson Paton and Andrew John Brady to be Honorary Majors.

Frederick Sobieski Wladimir Zlotkowski, James Hogg Paul, Henry Wilfred Palmer, John Burton Cleland, Frank Martin Suckling, Alexander Tennant Chapple, Henri Victor David Baret, Frederick Charles Seymour Shaw, Charles Stanser Bowker, George Albert Blumer, Henry Moger Cyril Dalton, James Davie, Thomas Plewman McKell, Harold Ramsay Beatty, George Joseph Chipperfield, George Craig Harper, George Cyprian Curtis, Alexander Allan, Henry Peet, Charles Saunders Renwick, Charles Henry Scott, Charles Valentine Macinerney, Robert Dey, John Edmund Foley, Lionel Bigoe Henzell Conroy, Amos Walter Bowman, Alva Benjamin, John Edward Francis Hosking, James Dawson, John Wilson Sutherland, Francis Patrick Quirk, James Walter Stewart McKee, Horace Gooch Button, Edward Bede Fitzpatrick, Herbert Richard Letcher, John William Gormley, Hans McMordie Kennedy, Grant Bramhall Lindeman, Arthur Ellis Blythman, Edmund Bruce Mortimer Vance, Frederick George Failes, William Houston Low, John Harris, Henry Solomon Maw, Rodon Tregarthen Mitchell, Arthur James McKenzie Fargie, Egbert Harrall Florance, and Duncan David Gibson to be Honorary Captains.

Ormond Joseph McDermott, Charles Joseph de la Mothe, John Cecil Lane, James Arthur Johns, Francis Isaac Ferris, and Henry William Leo Kelly to be Honorary Lieutenants.

Captain H. H. Marshall is transferred from Unattached List, and to be Honorary Major.

The resignation of Honorary Lieutenant T. Soderberg of his commission is accepted.

3rd Military District.

Australian Army Medical Corps—

Robert Oliver Douglas to be Captain (provisionally and temporarily).

Australian Army Medical Corps Reserve—

Frampton Garnsey Meade to be Honorary Captain. Francis Lethieullier Davies, Cedric Alwyn Stewart, Gerald Patrick O'Day, Ramsay Mailer, William John Denehy, and Arthur Norman McArthur to be Honorary Captains.

Bertram Percival Dartnell to be Honorary Lieutenant.

The resignation of Honorary Lieutenant B. H. Hocking of his commission is accepted.

4th Military District.

Australian Army Medical Corps—

Joseph Francis Bartley to be Captain (provisionally and temporarily).

Australian Army Medical Corps Reserve—

Eric James Roby Holder, Gerald Cobden Hayward, Sydney Ernest Holder, James Charles Kennedy, Joseph Richard Tobin, William Jens Gregerson, and William Ray to be Honorary Captains.

Arthur George Trott and John Millikin to be Honorary Lieutenants.

5th Military District.

Australian Army Medical Corps Reserve—

Thomas Wilson to be Honorary Captain.

Australian Army Medical Corps.

Captain T. F. W. Hall, 60th (Brunswick-Carlton) Infantry, to be Principal Dental Officer on Staff of Director-General Medical Services, at Head-Quar-

ters, with rank of Major (temporarily), and with pay consolidated, at rate of £550 per annum, inclusive of all allowances except travelling.

Captain T. F. W. Hall is seconded from the 60th (Brunswick-Carlton) Infantry, whilst holding the position of Principal Dental Officer.

His Excellency the Governor-General, on the advice of the Federal Executive Council, has announced the termination of the appointment of Honorary Captain Gilbert Elliott Aitken, A.A.M.C. Reserve, on the ground of medical unfitness.

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HOSPITAL SATURDAY AND SUNDAY FUNDS.

The annual appeal of the Hospital Saturday and the Hospital Sunday Funds was made on October 23 and 24, 1915, in Melbourne and suburbs. For some weeks past the principal hospitals have been engaged in an attempt to awaken public interest and sympathy, and the fact has been emphasized that many of the larger institutions are in a serious financial position. Notwithstanding the multiplicity of calls, many of which are of the first importance and are extremely urgent, it was hoped that the public would respond generously to the appeal for the impecunious sick. It has been pointed out that the great Melbourne Hospital is indebted to its bank for the sum of £13,000, and that its annual expenditure is approximately £12,000 more than the ordinary income. The Alfred Hospital has been obliged to owe its bank £1,800. The St. Vincent's Hospital has an overdraft of about £4,500, and the Children's Hospital one of close on £1,700. The Government is apparently unwilling or unable to come to the assistance of these important institutions. It has therefore been left to the charitable public to carry out the important duty of providing sufficient means for the adequate care and treatment of the sick poor. The figures available up to the present moment cannot be regarded as final, but they indicate that the community in Victoria has recognized the urgency of the matter, and has responded well to the appeal. In 1914 the sum of £9,300 had been collected on Hospital Sunday itself. This sum had been exceeded on two occasions, namely, in 1888, when it stood at £9,357, and in 1912, when it stood at £9,344. The total acknowledged on Monday, October 25, 1915, was £9,773. This is £416 more than the largest sum previously collected. It appears from the published lists that £6,089 were collected in the various churches, £2,483 resulted from the so-called systematic weekly collections, £413 have been acknowledged by the Secretary of the Hospital Saturday and Sunday Committee, and £620 are entered under the rubric of miscellaneous. The bookmakers were responsible for £331.

TOBACCO FUND.

We have received a remittance of 3s. 1d. from Dr. W. C. Huggart, of Mittagong, toward our branch of the Overseas Club Tobacco Fund. The total of the second contribution is thus brought up to £25 0s. 7d. The attention of members is drawn to a letter received by the Honorary Secretary and Organizer of the Overseas Club, published in last week's issue (page 399).

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LADY LAWLEY COTTAGE BY THE SEA.

The trustees of a convalescent institution for children, known as Lady Lawley Cottage by the Sea, in Western Australia, benefited some short time ago by a legacy left by the late Mr. Walter Padbury. It has been felt for some little time that a ward for the more serious cases of chronic sickness among children would add materially to the utility of the institution. The trustees of the late Mr. Padbury were willing that the money left should be expended for this purpose, and, consequently, a ward to be known as "The Padbury Ward" has been added to the Cottage. This ward was formally opened on October 15, 1915, in the presence of a large gathering. His Excellency the Governor performed the official function. The majority of the patients who will benefit by the existence of the Padbury Ward will be those suffering from tubercular diseases of the hip and other joints in a stage amenable to treatment. Unfortunately, there is no question as to the necessity of such a ward, in view of the frequency of surgical tuberculosis.

The Medical Journal of Australia.

SATURDAY, OCTOBER 30, 1915.

The Army Ration.

The attention of the public has been called to the diet on which our soldiers in Gallipoli are subsisting. During the past few weeks, accounts have reached Australia of the effect of a physiologically measured ration without variation on men constrained in trenches and subjected to unhealthy conditions. It has to be realized that the Defence Department is not in a position to introduce a modification, and that the determination of what is to be served to the men is in the hands of the Imperial authorities. There is no question about the difficulty of catering for a large and widely distributed army. But difficulties can be overcome. Indeed, it may be said that an easy task is scarcely worth the while performing. We hear of the substitution of a certain amount of bully beef by tinned tongue and of a proportion of the army biscuit by dates. In the admirable account of his experience of the events at the Dardanelles given to the Royal Society of New South Wales (see *The Medical Journal of Australia*, October 23, 1915, pp. 402-403), Colonel E. Stokes, A.M.S., related the effect of a monotonous diet on the majority of the Australian men fighting in the trenches. His remarks anent the army biscuit raise the question why this article has ever been introduced into the daily ration of the soldier. It is useless to supply the equivalent of 4,000 or 5,000 calories to the men unless the heat units can be utilized. The picture has been drawn of bleeding gums, sore mouths and painful teeth caused by the mechanical properties of the renowned biscuit. The commissariat should not be dependent on the liberality of funds like the Soldiers' Comfort Fund for the necessities of life. When strong, healthy men suffer from persistent diarrhoea, when the medical officers find that formed stools disappear from the latrines, when the sameness of the diet and its unpalatable character palls to such an extent on all the men that an average loss of weight of 28 pounds results, surely the War

Office should exercise some ingenuity in the matter of ration. The troops in Gallipoli have been called upon to undertake an extremely difficult task. Under good generalship, with forethought and good judgement, these difficulties can be overcome and the sacrifices which have already been made can be crowned with success. But this can only be achieved if the men who have to meet the foe are kept in good condition. No greater extravagance is conceivable than to risk the powers of endurance of soldiers engaged in trench warfare. The risk becomes very actual when the ration is of such a character as to become nauseating. The Imperial authorities will be held responsible for the result of the Gallipoli campaign, and the struggle threatens to become hopeless unless a healthy, suitable, palatable ration is substituted for the cast-iron army biscuit, the impossible bully beef and the cheese which the Australian soldier does not eat. There are promises of better things for the men at the front. Let these promises be realized, in order that the brave boys may be given a chance and the Empire an opportunity of a glorious emergence from the Eastern problem.

THE CEREBRO-SPINAL MENINGITIS EPIDEMIC.

In a report issued by the Chief Health Officer of Victoria, on October 21, 1915, Dr. Robertson informed the Premier that up to October 18 there had been 474 cases of cerebro-spinal fever notified, including 184 military cases. The mortality at that date was 41.5%. It was pointed out that the control of the epidemic must depend on the destruction of all the sources of infection. A counsel of perfection would be the isolation of every person suffering from catarrh of the nasal passages and fauces, and a thorough bacteriological investigation of the mucus. The disease had been notifiable since the commencement of the epidemic; accommodation had been provided for patients; adequate ambulance transport had been secured; the various municipal and district councils had been instructed as to the proper course to pursue; special advice had been given by the Department of Public Health in individual cases; the Minister for Health had conferred with expert medical practitioners; and

general and special precautionary measures had been explained through the public press.

On October 19 the Minister made a statement in the Legislative Council, and the Melbourne newspapers have drawn public attention to the epidemic, without giving, it must be admitted, any information of marked practical value.

In the last place, the Minister for Health of Victoria has summoned a medical commission, composed of Sir Harry Allen, the Dean of the Faculty of Medicine; Dr. Honman, the President of the Victorian Branch of the British Medical Association; Dr. Cumpston, the Director of Quarantine; Dr. Robertson, the Chief Health Officer; Dr. David Grant, Dr. S. V. Sewell, Dr. Bull, and Dr. Harvey Sutton. This commission is to consider the question and to report as to the best means to be adopted to deal with the epidemic.

In Western Australia, one case has been recorded on October 2, 1915, and the Health Department has issued a pamphlet containing a popular description of the meningococcus and of the disease. In New South Wales, after the disease had been mildly epidemic for a considerable time, the authorities, moving with deliberation and without undue haste, declared the disease compulsorily notifiable. The information which might have been available during the first months of the epidemic was therefore not collected.

It is noteworthy that three States, on being faced with the same problem, have adopted three different courses. In Victoria, the disease has been rendered notifiable at an early stage, the Department of Public Health has collected much information, and has given instructions to the bodies which should carry out prophylactic measures, but which rarely if ever do so, and the authorities have conferred and continue to confer with experts, without adopting any real scheme for the check of the epidemic. In Western Australia, the Department of Public Health has lost no time in instituting its plan. It has informed the public that the meningococcus is a delicate microbe, and that the spread of the infection does not occur through the medium of infected clothes. It has also explained that there are three stages of the disease, although these stages are not usually recog-

nizable. This information is interesting, but it might be asked why it should be imparted to the public. In New South Wales, the Health Department had not been officially informed of the epidemic until it had existed for a considerable time. No official action could consequently be adopted. The military authority has called to its aid the expert assistance of the Department of Public Health, but even after the disease had been rendered notifiable, the military cases were not included in the official returns.

The epidemic is a serious matter. It may not be an easy thing to check it, but no good can come of alarming the public or of sitting on the hedge. As is the case with all epidemiological problems, there is one best method, and a number of other methods of dealing with this disease. It is bad policy to allow six Health Departments and countless local authorities to follow any scheme which appeals to each one of them, or to leave matters to take care of themselves. It is admitted that the health administration by local authorities is wasteful and inexpedient, since no uniformity of action is gained and since vested and political interests often interfere with the performance of the proper actions. What is true of the local authority is also true of the State administration. The Commonwealth has one community to look after; not six. The safeguarding of the public health requires uniform administration, uniform organization and uniform methods. As long as six independent authorities act without reference to each other, and as long as they are not controlled by some central authority, the administration of public health measures will remain unsatisfactory. We therefore repeat our demand for a Federal Health Department, and the annihilation of the six State Departments.

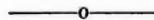
THE COUNTING OF THE UNFIT.

Mr. Knibbs, the Commonwealth Statistician, has published a preliminary statement concerning the information contained in the personal cards filled in by the citizens of the Commonwealth. He has received 551,961 personal cards for males of ages varying between 18 and 60 years. It is assumed that steps will be taken to collect information concerning the large balance of males of the ages mentioned who have not yet returned their cards.

The figures to hand may be taken as an indication of the readiness of the community to take up arms

in the service of Empire. The blind, deaf and crippled are classed together with those who have reported that their state of health was bad into one group, under the heading of "unfit." A second group is headed "doubtful," and comprises those who have described their state of health as indifferent. The remainders are grouped among the "fit." It is assumed that among the persons in "indifferent" health, the majority are suffering from a disinclination to get within earshot of the enemy's bullets. It is difficult to believe that 32.02% of the males in the active period of life are in indifferent health. Moreover, the proportion of these to the whole does not vary at all largely for the age-periods 18 to 34, 35 to 44, 45 to 54, and 55 to 59. In the first age-period, the proportion is 29.48%, in the second it is 34.48%, in the third it is 34.26%, and in the fourth it is 35.63%. As compared with this group, the figures given for the group of unfit are striking. The proportion of unfit men between 16 and 34 is 4.46%, that of men between 35 and 44 is 5.6%, that of men between 45 and 54 is 7.49%, and that of men between 55 and 59 is 10.23%. It will thus be seen that bad health becomes progressively more frequent as age advances, but not so "indifferent" health.

From the figures published, it would appear that 33.94%, *i.e.*, over one-third, of the males between 18 and 34 years of age are either unfit or unwilling to serve. We hold no brief for or against conscription, but if these figures are maintained when Mr. Knibbs has received the remainder of the cards, they may well be quoted in support of a compulsory training. The age for useful military service may be taken at 18 to 50. The figures available do not admit of this division, and we are therefore forced to regard the figures included in the first two age groups, namely, from 18 to 44 years. Information concerning 404,093 men is given. Of these, 19,457 are classed as "unfit," and 125,426 as "doubtful," making a total of 144,883 individuals who claim to be too little robust to join the colours. Expressed relatively, this would equal 35.85%. Thus, 64.15% of the male population between the ages of 18 and 45 would be available for military service, in so far as the general health is concerned. Of the men included, a certain proportion would be refused on account of defective teeth; others would fail to pass the test on account of varicocele, scars and other physical defects, and it is probable that some would be refused on account of general physical weakness. A period of training would no doubt be of great value in developing both the muscles and character of some of the individuals who shirk their responsibilities on the pretext of indifferent health.



THE FEDERAL SERUM INSTITUTE.

The Minister of Customs, Mr. Tudor, announced on October 21, 1915, the decision of the Government to carry into effect the proposal to establish a Federal Serum Institute. The advantages of such an institution have already been dealt with in these columns (see *The Medical Journal of Australia*, October 2, 1915, p. 317). The Minister has given an account of what the Government proposes in this connexion.

In the first place, it is suggested that the institute will be situated at Canberra. There are several arguments in favour of this selection, and very few disadvantages. In the next place, it is proposed that the sum of £12,000 should be expended on bricks and mortar. Provided that the plans will be drawn with a view to subsequent extension, this sum should prove sufficient at first. The Minister referred to the Lister Institute of Preventive Medicine, but the comparison is not very appropriate. The large building at Chelsea, on the banks of the Thames, represents a capital of something approaching £200,000, including the site. The serum farm at Elstree acts as a sort of *dependence* of the mother institute, and the work carried out there is supplementary to the laboratory work carried out at Chelsea. For many years the Chelsea building was incomplete. The bacteriological department consisted in those days of one large laboratory and three medium-sized rooms. The Director's department was about the same size, and the bio-chemical department was a little larger. The remaining laboratories were placed at the disposal of the Local Government Board and of private research students. After the institute was completed, the amount of room at the disposal of the Staff of the Lister Institute and of research students and others, including the Protozoological Department of the London University, was increased by considerably more than twice the original space. The actual increase in building consisted in a wing symmetrical to the original half, a large lecture theatre, and greatly extended accommodation for animals.

The cost of equipment of the proposed institute is estimated at £2,000. An additional £1,000 is allowed for other contingencies, so that the capital sum of £15,000 will be required. Provided that the money is expended economically and wisely, an excellent institute could be erected and equipped for this sum. In the third place, the Minister dealt with the cost of upkeep. He has been advised that £2,000 would suffice, and by adding to this an annual sum of £750, representing interest at 5% on the capital, he rounded the annual expenditure off at £3,000. Whether this sum will prove sufficient or not depends on the number and size of the salaries paid. No indication is given of the staff to be employed. We are therefore not in a position to analyse this proposal. Nevertheless, it seems as if the estimates have been drawn a little too close. The upkeep of an institute is expensive, and we must confess to surprise at the statement that the annual cost of the Lister Institute of Preventive Medicine is £5,000. Perhaps the Minister was referring to Elstree, and not to Chelsea and Elstree. If this be so, it may be necessary at a later date to extend the expenditure, but this could no doubt be done out of the profits, since the manufacture of sera, vaccines and animal extracts is distinctly profitable. There is one point which has not been mentioned. An institute of the kind proposed should be utilized for research as well as for the preparation of standard therapeutic agents. Australia should be given the opportunity of advancing sero-therapy, and its official institution should not be run merely as a convenient factory and supply store.

Abstracts from Current Medical Literature.

PATHOLOGY.

(157) Emphysematous Gangrene.

S. Costa and J. Troisier have examined the bacteriological flora of military wounds at Compiegne (*C. R. Soc. Biol., Paris*, May, 1915). These investigations were carried out on fragments of tissues, serous fluids and clots removed with a curette. They have summarized their experiments and observations as follows:—The pneumococcus occurs with singular frequency in military wounds; the *bacillus perfringens* when alone is frequently harmless, both in wounds and in experimental inoculations; the pneumococcus is habitually associated with the *bacillus perfringens* in infected wounds and in gaseous gangrene; every intermediate stage between an infected wound and gaseous gangrene can exist owing to variations in the resistance of the tissues and the virulence of the organisms; by means of this association of organisms conditions can be experimentally produced in guinea-pigs, recalling every stage from gaseous gangrene to the mildest infection.

M. Weinberg and P. Seguin contribute some observations on the bacteria found in the gaseous gangrenes (*C. R. Soc. Biol., Paris*, May, 1915). They describe firstly the particular characters of the different races of *bacillus perfringens* isolated in the course of their researches. The bacillus varies in length, sometimes appearing as a short rod, at other times as a long filament. It has never formed spores on egg-white bouillon even after six months' growth. Spores are not found in the tissues of guinea-pigs inoculated with the *bacillus perfringens*, when the animals have died several days after their injection. Cultures on glucose agar show much variety in their shape and margins. Cultures on litmus milk are usually characteristic, showing rapid clotting, a spongy red clot and a transparent whey. Some races, however, only produce coagulation of the milk after several days incubation, while other races will not cause clotting of the milk until several generations have been grown on glucose agar. The investigators have succeeded in producing all the lesions noted in man upon the guinea-pig by inoculation into the muscles of the thigh. No relation appears to exist between the toxicity for the guinea-pig. Races of the bacillus isolated from grave infections of the human subject have been slightly pathogenic to guinea-pigs. They have noted the occurrence of two separate races on plates prepared from the same tissue. In gangrenous wounds the presence of a non-motile bacillus of variable thickness, staining by Gram's

method, is constant, but the isolation of the *bacillus perfringens* outside the wound is not easy. This is due to its association with an organism possessed of characters closely resembling those of the *bacillus perfringens*. The *bacillus perfringens* is sometimes associated with septic organisms, which can also give rise to malignant edema. These authors have further isolated and partially described three organisms from human wounds. These three organisms induce the formation of gas when injected into mice and guinea-pigs.

Levy, Fourcade and Bollack point out that those complications of military wounds distinguished by the formation of gas are more frequently due to the *bacillus perfringens* than to the bacillus of malignant oedema (*C. R. Soc. Biol., Paris*, May, 1915). The object of their note is the demonstration that this organism, although an essential factor in the production of gas in wounds, is not infrequently found in wounds which do not develop gangrene or reveal any formation of gas. They have found that the organism is present in wounds caused by pieces of shells and by shrapnel when these wounds are examined in the field ambulances three to seven hours after the traumatism. When these wounds are cleaned and drained within a few hours of the injury the organism remains a saprophyte in the wound, and has no pathogenic action whether suppuration occurs subsequently or not. When the treatment of the wounds is delayed gaseous gangrene intervenes usually with a fatal result. A variable period of time elapses before the temperature rises, and the local phenomena become evident. The authors advocate preventive vaccination against the microbe, and are engaged in working on the details of suitable methods.

M. Weinberg (*C. R. Soc. Biol., Paris*, May, 1915) deals with the association of aerobic microbes with the anaerobic germs in those infections characterized by the development of gas. He has observed the presence of diplococci, staphylococci, streptococci and hay bacilli with the *bacillus perfringens*. Diplococci are most frequently found. Sometimes the organisms have the cultural characters, and the pathogenic properties of the pneumococcus, at other times organisms with different characters to those of the pneumococcus have been isolated. He has usually found the *bacillus sporogenes* of Metchnikoff in wounds showing a fetid odour. Occasionally the *bacillus putrefaciens* is found in these fetid wounds. He describes what he calls the flora of "the front" and the flora of "the rear." He records the results of the treatment of infections of *bacillus perfringens* by vaccines. The vaccine is used for systematic preventive inoculation, with the dual object of preventing the development of gangrene and of diminishing infection.

(158) The Biology of Trichinæ.

P. J. Schmidt, A. Ponomarer and F. Savelier have studied what temperatures in freezing apparatus are fatal to trichinæ, what are the conditions of the hatching of the worm from the cyst, and whether the worms can be cultivated on artificial media (*C. R. Soc. Biol., Paris*, May, 1915). They have found the worms to be unaffected by the temperature of freezing water during 11 days. They are not injured by a sojourn of 10 days at 6°C. The temperature of — 9°C. is sometimes fatal to them after ten days. Temperatures of — 15° to — 16°C. are invariably fatal after a few hours. The worms are readily hatched from the cysts when these are immersed in gastric juice. When placed in the juice from a gastric fistula in a dog, the cysts swell up and burst in about ten minutes. The worms are not hatched from the cysts by placing the cysts in physiological salt solution or dilute solutions of acids or alkalies. It has not been possible to cultivate the worms on artificial media. They may live for several days on digested meat, but their development does not continue.

(159) Bacillary Dysentery.

P. Remlinger and J. Dumas have examined the epidemic known as diarrhoea of the trenches, which occurred in the middle of winter in the Argonne (*C. R. Soc. Biol., Paris*, May, 1915). From the clinical and pathological points of view this disease did not offer any special features. The principal characters were the small number of ulcers, the absence of complications, the natural tendency to cure except in those cases rapidly fatal, and the absolute inefficacy of anti-dysenteric serum, either anti-Shiga or polyvalent. The present note is concerned with the aetiology of the epidemic. Examinations of the ulcers never showed the presence of amoebæ. After staining, coliform bacilli with a clean central space were often noted. Cultures grew on lactose agar. Haemocultures in broth or bile were always negative. They isolated the organism to be described from 25 fatal cases. The organism has the dimensions of the Shiga bacillus, is slightly motile, and does not stain by Gram's method. Milk is not coagulated. The bacillus can ferment glucose, mannite, levulose and galactose, but is without action on lactose, saccharose, maltose, and dulcite. The serum of patients does not agglutinate the bacilli of Shiga, Flexner or Strong, but does agglutinate the organism isolated. The germ is regarded as similar to the bacillus Y of Hiso.

(160) Diagnostic Blood Cultures in Suspected Typhoid Fever.

A. Orticoni describes a rapid method for the identification of typhoid and para-typhoid organisms in blood (*C. R. Soc. Biol., Paris*, May, 1915). He points out that two means are employed to detect the organisms for diagnostic purposes. In the first

method a large amount of blood is mixed with a much larger amount of broth. In the second method a few drops of blood are sown on bile. When the microbes have multiplied sufficiently they are separated by plating on elective media. Both these methods require a minimum period of 48 hours for their completion. The method described allows the diagnosis to be made in a much shorter time. Ten to 15 c.cm. blood are placed in a flask containing 100 c.cm. broth, prepared with 0.25% glucose. Just before the blood is added 2 c.cm. of ox-bile is mixed with the broth. The bacilli grow in most cases in 12 hours. The bacilli can be identified by staining or by agglutination with a specific serum. The presence or absence of fermentation in the flask separated the paratyphoid and typhoid organisms. The medium also serves well as a basis for further modes of cultivation.

(161) Preservation of the Re-agents Used in Biological Tests.

P. G. Weston describes methods for keeping and storing the re-agents used in performing Wassermann's reaction for syphilis (*Journ. of Med. Research*, July, 1915). He finds that human and sheep's corpuscles, dried in vacuo over sulphuric acid, can be kept in a dry state in a bottle without undergoing deterioration. Haemolytic amoebocyte serum can be diluted with water and taken up by sheets of filter paper, which are then dried in a brisk current of air. The sheets of paper must be stored in a dry place. No alteration in the titre of the paper saturated with the serum has been observed after five years. Serum, dried over sulphuric acid in vacuo, can be preserved for years. He has found no satisfactory means for keeping complement.

PÄEDIATRICS.

(162) Immunization Against Measles.

Taking into consideration the fact that in the United States of America, during a period of 10 years, there were 44,080 deaths from measles, not including deaths from the complications, and that the complications and sequelæ, *viz.*, pneumonia, otitis, adenitis and tuberculosis often cause permanent injury, Herman (*Arch. of Paediatrics*, July, 1915) suggests the necessity of immunizing infants against this disease. Infants under 5 months are relatively immune, and this is specially noticeable as practically all other children contacts develop the disease. Measles in infants under 5 months is mild and atypical, except in those cases where the mother has not had the disease, or has it only during pregnancy. The immunity becomes less marked towards the end of the first year, and is entirely absent during the second year, at which age most of the deaths occur. Infants under the age of 5 months who have been in intimate contact with the disease, and have not been infected frequently do not contract it when exposed later. One attack usually pro-

teets for life. From experimental work it has been shown that the blood and nasal and oral secretions contain the infectious agent from 24 hours preceding to 24 hours following the appearance of the eruption. It has long been the custom to expose children to infection of measles when other members of the family are affected. The danger in this procedure lay in the uncontrolled selection of the patients, it being especially risky in infants between 1 and 2 years, in poorly nourished infants, and those the subjects of tuberculosis. The author, inoculated 40 perfectly healthy infants under the age of 5 months, using cotton swabs moistened with the nasal mucus of otherwise healthy children, taken 24 hours before the eruption appeared. The mucus was kept in glass vials, together with pieces of moistened blotting paper, till used. The inoculations were made by applying the swab gently to the nasal mucous membrane of the infant. The majority of cases showed no distinct reaction; 15 infants had a slight rise of temperature, appearing from the 8th to the 14th day after inoculation. In a few cases a small number of spots were noted on the face and body on the 14th to the 18th day. Four of the 40 infants did not contract the disease though brought into intimate relation with it at a later date; and two others reinoculated at the end of their second year of life failed to respond. Though the virus of measles is filterable, the author considers the filtrate to be non-virulent and not to be depended on for immunization purposes.

(163) Starch Digestion in Children.

Of the three different food stuffs ingested for the supply of energy, heat or tissue building, the carbohydrates will be found to occupy the largest bulk, and of these the greater percentage is ingested in a form (*viz.*, the starches) which necessitates greater chemical action in its preparation for absorption and assimilation than is required by any of the other members of this group. The digestion of starch commences in the mouth (amylase and maltase), and ends in the intestine (*succus entericus* and pancreatic juice). The action of the ferments continued as long as any unchanged portion remains or until prevented by the acidity normal to the lower bowel. The unchanged portion of carbohydrates is very liable to fermentation. In chronic gastro-intestinal disturbances the absorption and digestion of starch are interfered with, and various authors have described cases of "mucous disease," "carbohydrate fever," "urticaria with enuresis," "chronic intoxication," in which excess of carbohydrate in the diet has been the probable determining factor. Yerington and Wetmore (*Journ. of Amer. Med. Assoc.*, August, 1915) have observed that a certain type of child, fed chiefly on carbohydrates, with a small amount of protein, showed an excess of undigested starch in the

stools. The children exhibit the "starch type of intestinal indigestion." From the stool examination of 338 children, aged from 1-14 years, in fairly normal condition, they found that the greatest percentage of excess starch occurred in children with digestive disturbances (16.5%), with rickets, and (14.5%) with hypertrophied tonsils (11.9%). About one-third of the children, whose teeth showed one or more decayed teeth; the majority suffered from chronically inflamed tonsils, and in nearly all there was a diet rich in starch food continued over a long period of time. After reviewing the case reports, stool examinations and dietaries, the authors conclude that (1) there is a type of indigestion in children presenting certain clinical manifestations brought on by the continued use of a diet composed principally of carbohydrate; (2) the condition can be cured by eliminating the starches to a great extent, and by giving a mixed diet at proper intervals; (3) the successful treatment of the patients cannot be accomplished without giving the parents a written dietary, containing the nature and quantity of the articles to be given and the time of meals; (4) frequent examination of the stools is necessary to aid in the diagnosis, and check the progress of the case; (5) before attempting to correct the dietary errors the mouth should be carefully examined, for the presence of carious teeth, chronically inflamed tonsils, and altered nasal secretions.

(164) Catarrhal Jaundice in Infancy.

Catarrhal jaundice, or acute duodenitis, with icterus, is a common disease in children between the ages of 3 and 6 years. It is, however, infrequently met with in children under 2 years of age, and is extremely rare during the first year of life. Hempelmann (*Amer. Journ. of Dis. of Children*, July, 1915) records 3 cases of the disease in infants aged respectively 8 months, 11½ months, and 2 months. As in older children, the usual symptoms are anorexia, coated tongue, abdominal pain, vomiting, slight prostration, fever, and drowsiness. The latter is especially marked in infancy. There may or may not be diarrhoea. After two or three days the characteristic jaundice appears, with grey or whitish and greasy-looking, foul stools, bile-stained urine and swollen and tender liver and spleen. The pulse is usually slowed, and may be markedly irregular. Fever disappears after a few days, and the jaundice disappears, but may occasionally persist for weeks. The liver remains large for days or even weeks after disappearance of the jaundice. As to the reason for the rarity of the condition in infancy, the author considers that perhaps the explanation lies in the peculiarities of the infant's diet; milk, as modified by the digestive juices, being unsuitable for the multiplication of the specific bacteria or toxin necessary to produce the symptom complex in question.

British Medical Association News.

MEDICO-POLITICAL.

A meeting of the Council of the Victorian Branch was held on September 29, 1915. Dr. A. V. M. Anderson, the Vice-President, took the chair.

The Secretary was instructed to convey by letter the sympathy of the Council to the widow of the late Dr. J. A. C. Welchman, and to the widow of the late Dr. R. A. A. Manly.

It was resolved that, in the opinion of the Council, provision should be made at the Queen's Memorial Infectious Diseases Hospital for the admission of persons suffering from those infectious diseases which have hitherto not been dealt with in the hospital. It was further resolved that the Premier be approached by a deputation for the purpose of bringing to his notice the necessity of relieving the hospitals of patients suffering from epidemic cerebro-spinal meningitis. The Committees of the Melbourne, the Alfred, the St. Vincent's and the Children's Hospitals were invited to nominate three representatives each to join the deputation.

Dr. Honman (the President), Dr. A. L. Kenny and Dr. MacAdam were appointed members of the State Medical War Committee.

Dr. W. R. Boyd and Dr. L. S. Latham were elected members of the Federal Committee of the British Medical Association for the year 1916.

Dr. Frederic John Orr Colahan, of St. Vincent's Hospital, was elected a member of the Victorian Branch.

A meeting of the Council of the Victorian Branch was held on October 14, 1915, Dr. Honman (the President) in the chair.

The Honorary Secretary reported that a conference had been held at the Victoria Barracks on September 28, 1915, for the purpose of discussing the question of the shortage of nurses. It had been proposed at the Conference that probationers, who had already commenced their period of training, should be allowed to serve at the Base Hospital for a period of one year and to complete their training by serving for six months at the Women's Hospital. A further suggestion was made that provision should be made to utilize the services of nurses who had been trained at the Government Hospitals for the Insane. He also reported that subsequent to the conference, a meeting of the Royal Victorian Nurses' Association had been held, and it was decided that the suggestions made at the conference should be acted on. Consequently, certain additional rules had been adopted. The rules were as follows:—

(a) Nurses who have trained for three years in Government Hospitals for Insane and passed Government examination for mental nursing, after having trained in a military hospital for one year and six months in women's surgical work in an approved hospital, may be registered by the Association.

(b) Nurses who can show that they have done three years' training in different approved hospitals, and can satisfy the Committee as to their suitability, and pass such examination as may be thought necessary, may be registered immediately by the Association for work as private nurses.

(c) Nurses who can show that they have done two years' training in different approved hospitals, after having trained for one year in a military hospital, and six months in women's surgical work in an approved hospital, may after examination be registered by the Association.

(d) Nurses who have trained for one year in an approved hospital may be admitted to military hospitals for one year's training, and after serving one year in military or approved civil hospitals, and six months in women's surgical work in an approved hospital, may after examination be admitted as members of the Association.

Rules (a) and (b) would be put in force at once, while rules (c) and (d) would be applied as occasion might require. It was determined that nurses would have to send in their applications before January 30, 1916, if they wished to benefit by the new rules.

The Honorary Secretary also reported that it had been suggested at the conference that the services of the Voluntary Aid Detachment should be accepted for the purpose of relieving orderlies and nurses of some of their duties.

The Secretary was instructed to convey to the relatives of the late Dr. A. W. H. Langley, to the relatives of the late Dr. Leonard Wright and to the relatives of the late Dr. A. C. Rothena the sympathy of the Council. He was also instructed to address a letter of sympathy to Dr. R. A. R. Wallace on the death of his father, Colonel Wallace.

It was resolved that a letter be addressed to the Medical Students' Society, inviting its members to attend all the meetings of the Branch.

The Secretary reported that 225 of the 863 members of the Victorian Branch were at present engaged on whole-time military service.

The following have been elected members of the South Australian Branch:—

Dr. Frederick Lawrence Wall, Brougham Place, North Adelaide.
Dr. Bedlington Howell Morris, Pembroke Street, College Park, St. Peters.
Dr. Ernest Albert Guymer, Wilperra Terrace, Kilkenny.
Dr. Harold Powell, 57 Cheltenham Street, Malvern.

The following have been elected members of the New South Wales Branch:—

Dr. Raymond Balls, Muswellbrook.
Dr. Kevin Byrne, Ashfield.
Dr. Fergus McIntyre, 2nd Australian Stationary Hospital.

The following have been nominated for election to the New South Wales Branch:—

Dr. Cedric Murray Samson, Sydney.
Dr. Clive E. Robinson, St. Andrew's College, Camperdown.

Public Health.

INFECTIVE DISEASES IN QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending October 16, 1915:—

Disease.	No. of Cases.			
Diphtheria	24			
Varicella	29			
Enteric Fever	20			
Scarlet Fever	7			
Puerperal Fever	1			
Pulmonary Tuberculosis	10			
Erysipelas	3			
Cerebro-spinal Meningitis	2			
Ankylostomiasis	1			
	97			

THE HEALTH OF VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending October 21, 1915:—

	Metro- politan. Cs. Dths.	Rest of State. Cs. Dths.	Totals. Cs. Dths.
Diphtheria	47	3	24
Scarlatina	5	0	7
Enteric Fever	6	0	3
Pulmonary Tuberculosis	10	7	8
		5	12

The following is a return of the cases of epidemic cerebro-spinal meningitis notified to the Board during the week ending October 21, 1915:—

	Metropolitan Area. Cases.	Rural Districts. Cases.	Total Cases.
Military	1
Civil	12	4	16

The official returns of the cases of epidemic cerebro-spinal meningitis notified to the Board of Health, Victoria, have been made up to October 18, 1915:—

Cases.	Deaths.	Mortality.			Total.			
Civil. Military.	Tl.	Male.	Female.	Tl.	Male.	Female.	Total.	
290	184	474	139	58	197	40.0%	45.6%	41.5%

Two hundred and four of the patients were residents in the Metropolitan area, and 86 in rural districts.

It is stated that in 16 instances of civilian cases (5.5%) the patients had been in contact with other persons suffering from the disease. The ages of the patients ranged from 3 weeks to 84 years.

More than one case occurred in 2.1% of the infected premises.

INFECTIVE DISEASES IN WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending October 9, 1915:—

District.	Enteric Fever.	Diphtheria.	Phtisis.	Erys. pelas	Cerebro-spinal Meningitis.	
Fremantle	1	—	—	—	—	—
Subiaco	1	1	—	—	—	—
Perth	—	2	1	—	—	—
Maylands	—	—	—	—	—	1
Midland Junction	—	1	—	—	—	—
Kalgoorlie	—	2	—	—	—	—
Osborne	—	—	1	—	—	—
Kanagullen	—	—	1	—	—	—
Nannup	—	—	1	—	—	—
Dwellingup	—	1	—	—	—	—
Osborne Park	1	—	—	—	—	—
Jarrahwod	—	1	1	—	—	—
Greenbushes	—	—	—	—	1	—
Blackboy Camp	—	—	—	—	—	1
Bunbury	1	—	—	—	—	—
	3	9	5	1	—	2

SMALL-POX IN NEW SOUTH WALES.

The following cases of small-pox have been notified to the Department of Health, New South Wales, during the week ending October 24, 1915:—

Country.	Cases.
Newcastle and surrounding district	26

The persistence of the variola epidemic has caused some alarm in the State of Queensland. It appears that the Queensland Premier, on the representations of the Commissioner of Public Health, has communicated with the Premier of New South Wales, with the view of ascertaining whether any precautions are being taken to check the spread of the disease. Information has been sought as to whether any cases have occurred between Newcastle and the Queensland border. Almost immediately after this communication was addressed to the Premier, the Health Department of New South Wales announced that it has been diligently engaged in endeavouring to check the disease. The means adopted to this end appear to have been the advice tendered to residents to submit to vaccination. This advice does not seem to have been followed to any large extent. The Department denies all knowledge of persons infected with the disease being allowed to move about the district without hindrance. The Director-General of Public Health has informed the Newcastle Chamber of Commerce that the only additional effective action which could be taken would be the proclamation of the Newcastle district as an infected area. The institution of compulsory vaccination does not appear to be regarded as a practical proposition.

THE HEALTH OF BROKEN HILL.

The Medical Officer of Health of the Municipality of Broken Hill, Dr. J. F. Bartley, has submitted his report for the quarter ending September 30, 1915.

The calculations are based on an estimated population of 30,000.

There were 268 births registered during the quarter, including 135 males and 133 females. The birth-rate was thus equivalent to an annual birth-rate of 35.7 per 1,000 of population. During the corresponding quarter of 1914 the rate was equivalent to an annual rate of 38.12.

The number of deaths recorded was 94, 54 of males and 40 of females. The death-rate was therefore equivalent to an annual death-rate of 12.53 per 1,000 of population, which compared favourably with the corresponding quarter of 1914, when the rate was equivalent to an annual rate of 13.45. The number of infants dying in the first year of life was 16. This yields an infantile mortality of 60 per 1,000 births. In the corresponding quarter of 1914 the infantile mortality was 97.

During the quarter the number of cases of enteric fever notified was 14, none of which were fatal. There were 81 cases of diphtheria with 4 deaths, and 28 of scarlatina without any deaths.

The Medical Officer of Health summarizes the chief causes of death as follows:—Nephritis 10, cancer 6, cardiac diseases 9, pulmonary tuberculosis 13, pneumonia 8, accidents 7, and senility 5. The deaths of infants were due to gastro-intestinal diseases in 4 instances, to prematurity in 5, to diseases of the respiratory system in 2, and to congenital diseases in 3 cases.

Dr. Bartley has obtained leave of absence to enable him to take up duty on a military transport. The work will be carried on by Dr. G. M. Dobbin until his return.

NOTIFICATIONS OF TUBERCULOSIS IN NEW SOUTH WALES.

The Department of Public Health of New South Wales has issued two circulars in connexion with the section of the Public Health Amendment Act, 1914, dealing with the compulsory notification of pulmonary tuberculosis.

Section 10 (1) reads as follows:—

If any medical practitioner attending any person becomes aware that such person (hereinafter referred to as "the patient") is suffering from tuberculosis, he shall examine the sputa of the patient or cause them to be examined, and, if he has reasonable ground to believe that such sputa contain tubercle bacilli, he shall forthwith give notice thereof in the prescribed form.

The circular issued to medical practitioners contains information in regard to the filling in of certificates, and in regard to the fee of 2s. 6d. which will be paid by the Government for each case occurring in private practice. The attention of medical practitioners is also drawn to the fact that they are invited to express a wish in regard to the inspection by the Health Officer of the premises occupied by the patient. In the last place, information regarding the disinfection of infected premises is given.

According to the wording of the section, it appears to us that all cases of pulmonary tuberculosis must be notified. No practitioner is justified in "believing" that the sputum of a patient suffering from pulmonary tuberculosis does not contain tubercle bacilli, even in the event of one or two negative examinations. Experience shows that if the sputum be artificially increased, and the test employed be injection into guinea-pigs, it is extremely rare for a negative result to be registered when there are physical signs of active diseases in the patient's chest.

The second pamphlet is a popular lecture on the dangers of infection and the means of circumventing them. This pamphlet is intended for consumptives who are visited by the Health Officer and presumably private practitioners may, if they desire, use them for their own patients.

The section is in force in the Metropolitan Combined Sanitary Districts and in the Hunter River Combined Sanitary Districts. The former comprises of the following municipalities: The City of Sydney, Alexandria, Annandale, Ashfield, Auburn, Balmain, Bankstown, Bexley, Botany, Burwood, Cabramatta and Canley Vale, Camperdown, Concord, Darlington, Drummoyne, Dundas, Eastwood, Enfield, Ermington and Rydalmer, Erskineville, Glebe, Granville, Homebush, Hunter's Hill, Hurstville, Kogarah, Lane Cove, Leichhardt, Liverpool, Manly, Marrickville, Mascot, Mosman, Newtown, North Sydney, Paddington, Parramatta, Petersham, Prospect and Sherwood, Randwick, Redfern, Rockdale, Rookwood, Ryde, St. Peters, Smithfield and Fair-

field, Strathfield, Vaucluse, Waterloo, Waverley, Willoughby, and Woollahra; of the following shires, Warrangah (ridings B and C only), Hornsby (ridings B and C only) and Ku-ring-gai (the whole); and of the Harbour of Port Jackson. The Hunter River Districts comprise of the following municipalities: Adamstown, Carrington, East Maitland, Greta, Hamilton, Lambton, Merewether, Morpeth, Newcastle, New Lambton, Plattsburg, Raymond Terrace, Singleton, Stockton, Wallsend, Waratah, West Maitland, and Wickham; of the following shires, Port Stephens, Cessnock, Bolwarra, Tarro and Lake Macquarie; and of the Harbour of Port Hunter.

—
LIVERPOOL CAMP ENQUIRY.

(Continued from page 408.)

The Charges Against Captain Schlink.

In the course of his speech delivered on July 1, 1915, Mr. R. B. Orchard, member for Nepean, made certain statements which were summarized under various headings on the instruction of the Commonwealth Crown Solicitor. Under the heading "B. (4) and (5)" charges were proffered of "callousness and indifference of doctors" and "German doctor of German sympathies."

At the beginning of the session of July 17, 1915, Mr. Innes, who assisted Mr. Orchard in the presentation of his case, made the following statement:—

In regard to B (5) of that *précis* there seems to be some misconception on the part of the gentleman who drew it up. "The following charges are made in connexion with the Military Camp at Liverpool: B (5) German doctor of German sympathies." I wish now to say that Mr. Orchard does not propose to prove that the doctor in question, Dr. Schlink, is of German sympathies. The charges made by Mr. Orchard in Parliament were not against the doctor, but against the administration, against the Defence Department for employing in this position a doctor with a German name and of German parentage who was believed, at any rate by some of the men to have German sympathies. Whether the doctor has or not German sympathies is a matter of which I have no knowledge, and which I should submit is absolutely immaterial. It may, perhaps, be the belief that this gentleman has German sympathies which have been more or less induced by indiscretions on his own part. Whether he is guilty or not of that I know nothing, and of which no doubt Dr. Schlink will no doubt be able to inform us. Mr. Orchard has never said, nor attempted to prove nor charge as a fact that Dr. Schlink has German sympathies. What he says that under the circumstances which arose in this particular case, and in view of the prejudices of the public, and the prejudices of the soldiers, it was a gross blunder on the part of the administration to employ Dr. Schlink in this particular capacity in this camp at this time. So that if the *précis* is to be regarded as any sort of pleading it should be amended so as to read that a German doctor, or doctor of German parentage, and name, believed by some persons to be of German sympathy, it would make it clear. We do not undertake to prove, nor do we wish to prove that this gentleman has German sympathies.

The *précis* was therefore amended in accordance with Mr. Innes's wish.

It is difficult to reconcile the statement with the facts. In *Hansard*, pp. 4516-4517, Mr. Orchard is represented to have said: "It is said that this doctor, who is of German parentage and sympathies, is endeavouring to make the work of the Army Medical Corps as ineffective as possible at the front." Had such a statement been made in Parliament or out of it a century ago, Mr. Orchard would have been called upon to reply to it in a lonely situation at an early hour of the morning, and before two witnesses with a pistol in his hand. We refrain from remarking on the grammar of Mr. Innes's statement, and limit ourselves to its significance. In view of the amendment of the charges, Captain Schlink was precluded from calling evidence to disprove the charges made by Mr. Orchard in the House. This is the first instance which has been brought to our notice

of a member of Parliament making a definite charge of a most damning kind against an individual, and when called upon to substantiate this charge, being permitted to withdraw it, because the basis on which it was made was so flimsy that it could not be upheld.

We propose first to deal with the charges included in the amended *précis*.

His Honor Mr. Justice Rich deals with this subject in his report, but, as has been already mentioned, refrains from including the subject in his recommendations, save for the one sentence: "No officer of the permanent staff should be allowed the privilege of private practice." In the report he states that no charge was made against Dr. Schlink of disloyalty or having had, or at any time being identified with German sympathies. He points out that the evidence proved that some of the men believed that he had German sympathies. He proceeds to give it as his opinion that the appointment of a person of German name and German parentage to a position in connexion with the defence of the country was an act of impropriety and inexpediency. The appointment is said to have impaired, in the opinion of a large number of the soldiers, the satisfactory administration of the Army Medical Camp. His Honour also makes some statements in regard to Dr. Schlink's attention to duty. He was allowed the privilege of attending his private practice in Sydney every morning. He did not come on duty until about 4 o'clock in the afternoon. His Honour expresses the opinion that half service is no service, and concludes by saying that he is not expressing any opinion in regard to Dr. Schlink's zeal, efficiency, powers of organization or professional ability.

The irrefutable evidence on which His Honour relies so implicitly concerning the opinion of "a large number of soldiers" appears to have reached the Commission second hand. One witness, a newspaper reporter, said that one man did not care to be treated by Germans, and remarks to that effect, but did not disclose the name or identity of this man. A private stated, in reply to the question: "But have you heard them express any disinclination to go there because of the nationality of the doctor?" "On one or two occasions only, and then by men generally who possibly are illiterate." A member of the Army Medical Corps stated that he had heard men say that they would not go up to the camp as there was a German doctor in charge. Mr. Orchard's evidence was of the same character, and included statements alleged to have been made by soldiers to him.

Captain Schlink gave evidence in regard to his family history, and his own doings. The story he told may be summarized as follows: He has two brothers, one of whom has never left Australia; the other, Dr. Rudolph Schlink, went to Germany to be educated. His uncle in Germany volunteered to pay for his education. He was in Germany for two years before joining the Marburg University as a medical student. Subsequently he went to the University of Berlin, and passed his examinations there. "He could not practice even then in Germany." In 1890 he was practising at Wodonga. We understand that Dr. Rudolph Schlink is at present interned in Germany, together with other British subjects. This point, however, was not brought out in evidence. As far as Captain Schlink himself is concerned, he stated that he was unable to read or speak German. No further facts were admitted in evidence in this connexion.

The first portion of His Honour's statement, namely, that Dr. Schlink has a German name and is of German parentage, is not questioned. It is possible that some of the men held the opinion that Captain Schlink had German sympathies, but we have been unable, from a careful perusal of the evidence, to find sufficient corroboration to justify this statement.

The next point to which we have to apply ourselves is in connexion with the expediency and propriety of Captain Schlink's appointment. For this purpose it may be advisable to recall the chain of events which led up to this appointment. Prior to March 12, 1915, Captain Schlink was Officer in Command of the 40th Army Medical Corps. On the date mentioned he was required by the Principal Medical Officer to proceed to Liverpool Camp, and to act as Officer in Command of the Field Hospital for a period of one month. Owing to representations made to him, he vol-

unteered to extend this period. At a later date, he approached Colonel Fiaschi, who was then the P.M.O., and explained that he could not afford to stay at Liverpool. The salary he was drawing as Captain was not sufficient to cover the rental of his consulting rooms. His appointment was a part-time appointment, and he had permission to engage in private practice. Colonel Fiaschi was unwilling at the time to liberate him from Liverpool. Still later he asked Colonel Perkins, when that officer became Principal Medical Officer of the district, to allow him to return to his unit. He was, however, kept at Liverpool for four months.

During the whole time of his appointment he was on duty at 6.30 every morning. On three occasions he did not sleep at the camp. He remained on duty from 6.30 until 11 a.m., and was absent from that time until between 3 and 4 p.m. On Saturdays, Sundays, and holidays, and also on days when the work was very heavy, he did not leave the camp to attend to his private practice. From the time of his return until 11 o'clock in the evening he remained on duty, thus completing a working day of 10½ hours. This statement of fact conveys a very different impression to the statement made by His Honour in the report, namely: "I find the Officer Commanding the A.M.C. did not come on duty till about 4 o'clock in the afternoon." It must be remembered that Mr. Orchard, in his speech, was making a direct attack on Captain Schlink. In the course of his speech the following words were used: "I say that the presence of this doctor in the hospital is an insult to the people of Australia and an outrage on those boys who are freely offering their lives in this time of the Empire's need, and he ought not to be permitted to remain their one moment longer. We have plenty fully equipped Australian doctors, and some of these ought to be placed in charge." Captain Schlink is a British subject of Australian birth. He has been attached for some years to the Australian Army Medical Corps. He has given ample evidence of his loyalty, and has worked indefatigably in the service of the Empire. He was placed against his wish in a position of great responsibility at a remuneration which was relatively very low. He requested time and again to be relieved of this office, because his means were insufficient to enable him to meet his financial responsibilities. We fail to understand why it should be regarded as improper or inexpedient to appoint a man of Captain Schlink's attainments and qualities to the responsible position of Officer in Command of the Field Hospital. The facts that he has a German name, and that his parents were of German origin should not be relied on without consideration of the special circumstances. Descent in itself must be regarded as comparatively unimportant. Her late Majesty Queen Victoria married a German. King Edward VII, the Peacemaker, was by descent as much German as British. Provided that a man's actions can be shown to prove his loyalty, the accident of the birth of his forefathers should not be taken into consideration. In the case of Captain Schlink, the facts that he was in the service of the Empire prior to the outbreak of war; that he discharged his duties as Officer in Command of his unit to the entire satisfaction of those in authority; and that he was placed in a position of responsibility almost against his wish, tend to discount the opinion expressed in the report. Mr. Orchard's onslaught was of such a character that Captain Schlink was compelled to seek means of clearing himself of the charges. There is a considerable amount of evidence pointing to the utility of his services as Officer in Command of the Field Hospital. He established the venereal compound; he made arrangements for voluntary dental treatment to be accorded to the soldiers; he instituted improvements in the construction of the latrines; he provided sufficient waiting accommodation, and seats for the men on sick parade; and he carried out a number of other important improvements in the organization and the administration of the Army Medical Camp. Moreover, the evidence would tend to show that many of his requisitions were not given effect to, in spite of the fact that they were made to remedy urgent defects. With this record before him His Honour is satisfied to sum up the position by stating he had no opinion to express in regard to Captain Schlink's zeal, efficiency, powers of organization or professional ability.

It is necessary to turn for a moment to the charges contained in Mr. Orchard's speech in regard to Captain Schlink's sincerity. In spite of the fact that the charge was withdrawn on the amendment of the pleadings, a witness named Isabel McKinnon, a telephone operator, was subpoenaed to appear before His Honour. In Mr. Innes's speech the remark is contained that she was not a willing witness, but that Mr. Orchard, after having learned that she had something to say, obtained her attendance at the Commission. This lady gave evidence on July 27, 1915. The incident described by her was said to have occurred about the middle of February, that is, over five months before. At that time she accompanied another lady on a visit to Dr. Schlink's consulting rooms. She made the statement that Dr. Schlink read extracts from a letter which he had received from his brother-in-law. These extracts had reference to the shortage of food supplies in Germany and the wounding of a cousin of his who, presumably, was serving in the German army. Witness maintained that Captain Schlink had said that the Liverpool Camp was full of disease and, continuing, he added: "The physical condition of the Australian boys, as compared with the best physique of the men in the German Army, give the Australians no chance!" She insisted that these were his exact words. Later the witness qualified what she had said in regard to the wounding of Captain Schlink's cousin. She was not sure whether it was a cousin who was wounded, but a cousin was at the war. The witness also insisted that a passage read from the letter contained some reference that some person had been decorated with the Iron Cross. She also stated that from the time shortly after the occurrence until the commencement of the enquiry she had not mentioned the matter to anybody. Her memory had been refreshed by reading the evidence in the newspapers. She was unable to state the names of the persons to whom she had spoken about this matter. On being cross-examined, she admitted that the events of the week before were not clearly remembered, but she maintained that she had quoted the exact words used by Dr. Schlink five months before.

In his speech, Mr. Innes pointed out that Dr. Schlink admitted that a letter had been received by him from his brother-in-law. He had read parts of this letter in the presence of a lady who was an entire stranger to him. Moreover, Captain Schlink is said to have admitted that all the references quoted from the letter, save that dealing with the Iron Cross, were contained in the letter. Mr. Innes naturally made a great deal of this incident. It would seem that Captain Schlink had received a letter from a relative in Germany, and that this letter had contained news and impressions. We fail to understand why such a letter should be taken as evidence of disloyalty on the part of the recipient. It was no doubt indiscreet on the part of Captain Schlink to read parts of the letter in the presence of a stranger. But in the absence of any evidence, it must be assumed that he did not hold the views alleged by the witness to have been expressed by him in comment on the letter. Captain Schlink's parents are German born, but they have resided in Wodonga for upwards of 50 years, and we understand, are respected citizens. This fact gives the key to the situation. Some of his relatives were in Germany, and were interned in common with other British subjects. It is not unnatural that these relatives should have written to him.

We claim, therefore, that Mr. Orchard was quite unjustified in making his attack on Captain Schlink, and that Captain Schlink was robbed of the opportunity to clear his good name by the withdrawal of the special charge.

THE SCHLINK FUND.

We have received four additional contributions, amounting to five guineas.

	£	s.	d.
Amount previously acknowledged	86	11	0
Dr. George A. Brookes..	1	1	0
„ J. C. Halliday ..	2	2	0
„ Norman Robertson..	1	1	0
„ Cyril Shepherd..	1	1	0
Total	£91	16	0

The Leader of the Opposition, the Honourable A. H. Peake, asked the Premier of South Australia, on October 19, 1915, in the House of Assembly, whether he was satisfied that Dr. Ramsay Smith should have been reinstated in the position of City Coroner. In his reply, the Premier stated that he knew of no charge that had been made against him, and he had ascertained that the Minister for Defence was not aware of the nature of the charge preferred by the military authorities. He, the Premier, was of opinion that Dr. Ramsay Smith should be granted an enquiry, and he was confident that if this were carried out, he would come out of it with an enhanced reputation.

TOOWOOMBA HOSPITAL.

From the published accounts of the meeting of the Toowoomba Hospital Committee, held on October 10, 1915, it appears that this institution is in a very serious financial condition. No further Government contribution is due until January next, and the amount to the credit of the hospital is under £500. There has been an alarming falling off of subscriptions, while expenses have increased very considerably owing to the rise in prices of drugs, wool, and other supplies. We understand that the Committee will consider the position at its next meeting, and determine what means should be adopted.

Medical Matters in Parliament.

NEW SOUTH WALES.

In the Legislative Council on September 29, 1915, the Hon. Sir Thomas Hughes asked the Vice-President of the Executive Council whether he would endeavour to induce the Government to introduce an amending Bill to enable certain medical graduates to be registered. He pointed out that 43 candidates had just passed the final examinations in Medicine, that, owing to their act of volunteering for service in the war, their term had been shortened from five years, the standard period, to 4½ years, and that, as they had not spent five years as medical students, they could not be registered. He trusted that the necessary steps would be taken to enable these young men to do what they desired, *viz.*, their duty to their country.

The Hon. J. D. Fitzgerald replied that, on behalf of the Government, he could say that a Bill would be prepared and introduced immediately for the purpose mentioned. He would press the matter forward.

Late on the same day the Legislative Assembly, in Committee, agreed to a resolution moved by Mr. Arthur Griffith, that it is expedient to bring in a Bill to amend the Medical Practitioners Act, 1912. The Bill was presented and read a first time. The Bill read as follows:—

Be it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of New South Wales in Parliament assembled, and by the authority of the same as follows:—

1. This Act may be cited as the "Medical Practitioners (Amendment) Act, 1915."

2. Section four of the Medical Practitioners Act, 1912, is repealed, and the following section is substituted therefor:—

4. The following persons, and no others, shall, for the purposes of the Coroner's Act, 1898, be deemed legally qualified medical practitioners:—

(1) Any person who proves to the satisfaction of the Board—

(a) that he is a doctor or bachelor of medicine of a university in Australia which is recognized as such by the Board, or of some university of Great Britain or Ireland, or is a physician or surgeon licensed or admitted as such by some college of physicians or surgeons in Great Britain or Ireland; or

(b) that he has passed through a regular course of medical study of not less than

five years' duration in a school of medicine; and that he has received after due examination from some university, college, or other body duly recognized for that purpose in the country to which such university, college, or other body belongs, a diploma, degree, or license entitling him to practise medicine in that country; or

(c) that he is a member of the Company of Apothecaries, of London, or a member or licentiate of the Apothecaries Hall, of Dublin.

(2) Any person who is or has been a medical officer duly appointed and confirmed of His Majesty's sea or land service.

(3) Any person placed upon the separate register under section eight of this Act or under the Acts hereby repealed.

On October 12, 1915, Mr. Griffith, Minister of Public Instruction, moved that "The Bill be now read a second time." He said that the Bill was an emergency measure. He had been waited on by Sir Thomas Anderson Stuart, of the Sydney University, who had asked that the Bill be passed to enable a number of men, recently qualified, to take their places in the military forces. The existing Act insisted on a course of medical study of 5 years' duration. These men had passed their examinations, but had not completed 5 years. The Bill proposed to take out that section of the Act, and thus allow these medical men to take their places in the military forces after having passed the necessary examinations at the University. He had been assured that there was no intention to put unqualified or partly qualified men on the world. If the Bill were not passed, a number of these young men would have to wait several months to complete their five years' course. These men were ready to go now. Some had already gone to camp, but none had yet left the country. It was proposed to make the qualification here what it was in the Old Country. The universities of Australia were of sufficient standing for the public to rely on their diplomas without fixing any period of study. A doctor of medicine from Edinburgh, London or Dublin was allowed to practise here after a 4 years' course, so long as he had the diploma of the University. There was no reason why the course should be made 5 years in Sydney, seeing that medical men were allowed to practise here after a 4 years' course. The University would not grant a diploma to a man who was not qualified, and there was no reason why a man, when he received his diploma, should not be allowed to practise before the expiration of 5 years. There was no reason for the 5 years, even if there were no war. So long as they showed their fitness by passing their examinations and receiving their diplomas, the people of Australia could surely trust their own medical men after a 4½ years' course to be as well qualified as men from other countries who had had a similar course. They did not propose to restrict the operation of the provision to the men who were going to the front because the authorities of the University wished to place Sydney University in the same position as the English Universities. The University did not propose to grant diplomas in normal times until students had undergone 5 years' study and practice, but they desired to have power to grant diplomas in 4½ years. When a man came here with a diploma from other recognized universities we did not ask whether he had studied 4 or 5 years, but the Australian student had to go through a 5 years' course, as well as possess a diploma. He asked whether anyone could explain why we should recognize diplomas obtained from British universities without any time being specified, while the students of our own universities should be subjected to a time limit, as well as the necessity of obtaining a diploma. The proposed amendment did not aim at retaining for Sydney University the men who now go to Edinburgh to qualify in four years. It was to enable those men who had passed the usual examinations, but had lost a certain amount of hospital practice to proceed to the front.

Mr. C. G. Wade wished to refer to two points. The first was the principle underlying the amendment of the Act, and the second was the way the Bill had been brought before the House. He was quite in favour of the alteration.

in principle, because the time had now arrived when we could fairly trust the authorities of the university not to let loose on the world unqualified men. When the medical school was founded, the Act provided that before medical students could practise, they must obtain a certificate that they had passed through a course of 5 years' training in the University of Sydney. The right to practise was also given to persons holding the diplomas from other recognized universities, without specifying any period of study. In making a new departure, the desire had been to safeguard the authorities and the public against men being allowed to practise without proper guarantees as to their fitness. He was glad and proud to say that after 20 years' experience the degree issued by Sydney University was recognized far and wide as of the highest standard and, if the University authorities asked that they should be permitted to rank with the older universities, he had no objection to granting their wish. The second point that he wished to urge was that this measure would give certain relief to the University and the students at this precise time. So far as that went, well and good, but it was necessary to be candid about the whole matter. If there was to be an increased flow of men into the profession in the shorter period of time, it must result in the standard being lowered for the time being. He had a fairly close acquaintance with the medical course in the last 10 or 12 years, and he considered that the time of the normal student was fully occupied in qualifying himself to pass by working in vacation and during the term. Five years was not too long to enable him to qualify. He had been told that the desire was to assist the Imperial Government by sending an increased supply of medical officers from this part of the world to help on the battlefield. It was therefore proposed to allow the University if it thought fit to reduce the period of 5 years to 4½. He wished the University to understand that while it might be compelled to reduce the standard under existing conditions, it should use that power with great discretion. Although a student could leave for the front on the reduced curriculum of 4 or 4½ years' continuous work, he would be without the extra clinical experience that he gets in the 5 years' course, but, at the front, he would have experience in the hospitals which, in the end, would more than compensate for the loss sustained before leaving the University. In the space of a year or two he would return to New South Wales as efficient as those students who took 5 years to qualify.

Mr. J. Storey was in favour of the Bill, but would like the Minister to limit its duration to two years or during the period of the war.

Mr. Levy pointed out, at some length, that the Bill provided that the graduates of the Sydney University should be entitled to be legally qualified medical practitioners, although they were not qualified under the section dealing with qualifications. There was no desire to shorten the curriculum, except during the war. There had been no alteration in the standard of the examinations. What had been done was to bring the various subjects closer together by teachers and students agreeing to take no vacations and to go through the work in the minimal possible time. The shortened course was not thought to be an advantage to the University. It imposed a strain on all concerned, but it was considered a patriotic duty.

Mr. McGirr did not agree in placing an Australian university on an equality with the Edinburgh University. Men who failed in Sydney had gone to Edinburgh and finished their course easily. Edinburgh had been recognized as the *refugium peccatorum* of the world. The standard of our University should not be reduced to that of Edinburgh University. He thought that it was unfair to men who had taken the longer period for their course to bring a great influx of doctors on the market by diminishing the length of the course. The University might fall into hands such as control some American universities, and students might, with a little persuasion and a few dollars, get a diploma in a shorter time. That argument was probably far-fetched.

The Minister pointed out that the argument was fetched a very long way.

Mr. McGirr continued that the University had been gradually cutting down the period for instruction in the art of dispensing. Thus the newly-qualified students began to

compound potions for the people upon whom they hoped to gain experience for future success when they went into practice in a country district, where there was no qualified pharmacist.

Mr. J. C. L. Fitzpatrick thought that the Bill should state precisely that the power to grant a diploma on the conditions mentioned in the Bill should no longer be held by the Senate of the University when the war ceased.

The question was then resolved in the affirmative. The Bill was read a second time and reported from Committee without amendment. The report was adopted.

The Bill was read a third time on October 13, 1915.

The same day the Bill was brought into the Legislative Council, when the Hon. J. D. Fitzgerald moved that so much of the standing orders be suspended as would preclude the passing of the Bill through all its stages during the present sitting of the Council. The resolution was agreed to and the Bill read a first time.

The Hon. J. D. Fitzgerald moved that the Bill be now read a second time.

The Hon. Sir Thomas Hughes said he thought it was not necessary to state anything about the Bill, since he thought that every member of the House agreed with it, but he thought that this was the moment to take a further step. It had been a standing grievance with the medical profession for a generation that, while members of foreign universities could come here and practise under the present law, their own students, with equal qualifications, were not allowed to practise in foreign countries, notably in Germany. He proposed to move in Committee an amendment dealing with this subject. This clause would allow of reciprocity. The same provision already held in regard to the legal profession.

The Hon. Dr. Doyle had much pleasure in supporting the Bill, and also the proposed amendment. When a medical man went abroad, he found that he was not on the same footing as a practitioner from England. In England, medical men from the States of the Commonwealth were put on a separate register from the British practitioners. Abroad, no one with an Australian diploma was permitted to practise medicine in France, Germany or Italy in any part of the country, unless he either passed a state examination or had a degree from a university. On the other hand, a qualified medical man could come to Australia from any part of the world and present his letters, testimonials, diplomas, or certificates to the Medical Board. If these were from a reputable medical board or university, he was registered at once.

The question was resolved in the affirmative, and the Bill read a second time.

In Committee, on section 4 (c) of clause 2, the Hon. Sir Thomas Hughes moved to omit the words "member of the Company" with a view to the insertion of the words "licentiate of the Society." The Principal Medical Officer to the Government had pointed out that, by an inadvertence, a licentiate of the Society of Apothecaries had been called a wrong name. The amendment was formal. After some explanations the amendment was adopted.

The Hon. Sir Thomas Hughes then moved that at the end of the clause the following words be added:—

Provided that no person shall be deemed to be a legally qualified medical practitioner or entitled to be registered as such under the provisions of subsection 1 (b) of this section by virtue of a diploma, degree, or license entitling him to practise medicine in the country to which the university, college, or other body therein mentioned belongs unless it be made to appear to the Board that by the laws or regulations in that behalf in force in such country the right to practise medicine therein is granted to persons who are registered in this State as legally qualified medical practitioners under this Act by virtue of their being so registered and without further examination.

This clause had been settled with the draftsman, and was acceptable to the Government.

The Hon. A. Sinclair said that if these foreign countries did not grant reciprocity, the amendment would exclude from Australia medical practitioners from those countries. He asked whether this was an advisable thing to do. They stood to gain by it a reputation for very great foolishness.

In reply to an interjection, he said it seemed to him wrong to say that we were victimized by receiving medical practitioners from France. He did not think we should coerce other nations to fall into line with us.

The Hon. Sir Charles Mackellar pointed out that a medical man in Germany was not entitled to practise in his own country when he passed the examination of the country. He had to pass, in addition, another examination, called the *Staatsexamen*.

The Hon. N. J. Buzacott considered that it was unwise to prevent very highly qualified men who were allowed to practise in their own country from practising here if they chose to do so. Men who were not permitted to practise in their own country were in a different category. It would be a scandal to allow them to practise in this State. He could see no reason for keeping out medical practitioners from friendly countries.

The Hon. G. F. Earp could understand the remarks of hon. members if there were any dearth of capable medical men here. It was more than pathetic, while we were fighting with our backs to the wall, to hear anyone advocating the admission of German doctors. If we were to be even with the Germans we should have to copy many of their practices. Countries did not reciprocate because it was not to their advantage, and we could not do better than copy them in that and many other things.

The clause, as amended, was agreed to. The Bill was re-preserved with amendments and the report adopted. The Bill was read a third time. It was at once forwarded to the Assembly and received.

On October 14, 1915, the Assembly considered in Committee the amendments by the Legislative Council to the Bill.

Mr. Arthur Griffith, Minister of Public Instruction, moved that the Committee agree to the Legislative Council's amendments in the Bill. Two amendments were made by the Council, and he would point out that their acceptance or rejection was merely a matter for the exercise of individual judgement. He was not going to ask any member to give a party vote for or against them. The first was a verbal amendment, the second was material. It provided that certificates of registration of those European countries, Germany and others, which did not recognize our medical degrees should not be recognized here. There were two sides to the proposition. It was only reasonable to say that we wished for reciprocity, but we would have to analyse this proposal to inquire whether it would do us more harm than good. A skilled French, Italian, Russian or Austrian practitioner, a man like Dr. Fiaschi, would not be allowed to practise in the State. Of course, the law would not be retrospective, but another Fiaschi might come here, and he would not be allowed to practise. He thought that the Council was actuated by the view that Australia had now reached a sufficiently high standard to warrant its diplomas being recognized abroad. Until foreigners chose to acknowledge our standard, we should treat their medical men in this way. He commended the amendments to the favourable consideration of the Committee.

Dr. Arthur thought support should be given to the amendment made in the Council. It seemed to him an equitable thing to adopt the system of reciprocity which existed between Great Britain and one or two other countries. With the exception of the gentleman whom the Minister had mentioned, he did not know of any man of foreign birth, as far as his memory served him, who stood out in any way as a brilliant surgeon or physician and whom we could not have well done without. There was not the slightest doubt that a large number of men we had had in the past, particularly from Germany, had been men who were in no way distinguished. He did not wish to say anything against their professional ability, but, in all probability, their places could be taken by our own medical graduates.

Mr. Arthur Griffith remarked that Dr. Arthur might say that a stonemason or carpenter could be replaced in the same way, and therefore should not be admitted to follow his trade here if he came from a foreign country.

Mr. C. G. Wade thought that it would be dangerous to adopt the amendments without further knowledge. He opposed it on two grounds, firstly, that there was no need

in Australia to hedge ourselves around medically with a fence, and, secondly, the present time was not suitable for retaliation against France.

Mr. McGirr supported the amendment and Mr. Robson opposed it.

Mr. J. Storey urged that progress be reported, so that further information might be available.

Mr. Lang pointed out that an Australian who had qualified in France or Italy for some special purpose would be blocked from practice on his return to Australia.

Progress was then reported.

(To be Continued.)

Correspondence.

MEDICAL PRACTICE AND THE WAR.

Sir,—Your sub-leader of 16th inst. is not pleasant reading to those of us who are striving to build up our practices from the *débris* left after the introduction of the "Common Form of Agreement." Surely if we call on the men outside the B.M.A. to work with us, it means according them professional recognition, which could not be withdrawn upon the declaration of peace in the world.

Most of these men are quite busy in the thickly populated centres, where the lodge strength was such as to tempt them deliberately to oppose the views of the Branch.

What will be the thoughts of those men who have gone to the front and left their practices in our safe keeping if your proposal is acted upon and these outsiders are whitewashed and introduced to the patients of the absentees?

One would hope that your suggestion is merely an attempt at a generalization, which does not fit New South Wales.

Yours, etc.,

R. E. WOOLNOUGH.

Belmore, Sydney,

October 22, 1915.

Dr. Woolnough raises a number of questions which are very real at the present moment. Incidentally, he touches on two which can be discussed at a later date. These are the value of the introduction of the Common Form of Agreement to the community and medical profession in New South Wales, and the detachment of New South Wales from the Commonwealth.

In the emergency created by the state of war, the community of Australia is in danger of being left without adequate medical attendance. Medical men have a duty to perform to the State, and one to the profession to which they belong. Fortunately, these duties cannot clash. A few men have conducted their practices exclusively with the object of preserving their own pecuniary interests or with this intention. Some of these men are competent practitioners and their one fault is that they are too greedy. They have failed to recognize that by lowering the standard of practice, they do the profession, their patients and indirectly themselves an injustice. Some of these men have accepted Lodge appointments on conditions which the British Medical Association in the various States has considered to be unsatisfactory. Dr. Woolnough states that the majority of these men are quite busy in thickly populated districts. We find it difficult to generalize in this manner, but wish to point out to him that whether these practitioners have much or little to do is scarcely material. We are concerned with the community, and seek some remedy for districts in which the men remaining at home have difficulty in according satisfactory medical attendance to the whole of the local population. The various Branches of the British Medical Association in Australia have decided that local arrangements should be arrived at for the purpose of carrying on the practices of the men who have undertaken naval or military duty. We have thrown out the suggestion that those practitioners, who have behaved unwisely in the past in regard to Lodge practice, should be called upon to make sacrifices together with those who have been true to the British Medical Association. Before the local practitioners could make arrangements with these gentlemen in regard to the distribution of the work of the absentees, satisfactory guarantees would

have to be obtained. The first and most obvious of these would be an undertaking to stand out for the terms declared by the Branch of the Association as essential. Dr. Woolnough is alarmed at the idea that the practitioners in question should be asked to assist in meeting a national emergency. Provided that they are competent practitioners and are reputable members of society, nothing could be easier than to safeguard the interests of those who are absent on Imperial service. We would suggest to Dr. Woolnough that he has a poor opinion of their professional capabilities and knowledge, if he questions the power of the recognized members of the British Medical Association to hold their own in competition against an outsider. But even if he does not care to rely on the competence of the "inside" men, an arrangement could be made between the patients, the "imported" medical practitioner and the local members of the Association, acting as a body, that on the return of the absent practitioner, the *status quo ante* should be restored.

The last point raised by Dr. Woolnough is also readily disposed of. Whether professional recognition should be withdrawn upon the declaration of peace, must depend on the manner in which these gentlemen have carried out their part of the contract. In the article referred to, we ventured to express the hope that treatment of this kind would convert these men. If this were the case, why return to a very disagreeable state of affairs? On the other hand, the continuation of professional relations should, even during the currency of the war, be made dependent on the manner in which the sometime delinquents played the game.]

THE JOURNAL AND THE N.S.W. MEDICAL ACT AMENDMENT BILL.

Sir.—The debate in the N.S.W. Assembly on the above Bill showed that the medical profession has many powerful and unscrupulous enemies. It is amazing to find by your leading article in to-day's issue that on a question of the most vital importance to members, the *Journal*, which is supposed to represent their views, takes up a position diametrically opposed to their wishes and interests, and lends powerful support to these enemies.

There is nothing which has been waited for so long, no reform which has been so earnestly desired, none which could bring about more far-reaching and important benefits than a measure to place our State in line with practically all others, and exclude from medical registration all foreigners who have not passed the examinations prescribed in the medical course of the University, and just as we seem on the eve of obtaining this act of justice the *Journal*, our *Journal*, makes a strenuous effort to deprive us of it. It is truly a deplorable result from all the time, energy, and money that has gone to obtaining a medical journal, that the profession cannot rely even upon its neutrality in a crisis such as this.

Yours, etc.,
RALPH WORRALL.

[In the article referred to by Dr. Worrall exception was taken to two matters in connexion with the amendment of the Medical Act of New South Wales. In the first place, the Amending Bill was introduced as a temporary expedient to meet an emergency, and the inclusion of a clause providing for reciprocity was an after-thought, which was quite foreign to the measure. The majority of the members of the New South Wales Branch of the British Medical Association has pleaded for reciprocity in regard to medical registration, provided that a State examination were introduced as the basis for registration. The amendment referred to has now been modified by the acceptance of Mr. Wade's amendment providing an examination test for foreign practitioners from countries which do not stand in reciprocal relations to New South Wales in this respect. Dr. Worrall is mistaken in assuming that the article was directed against the introduction of reciprocity. The very reverse is the case. The object of the article was to oppose the very dangerous principle of introducing important irrelevant amendments to non-contentious legislation.

In the second place, attention was called to the possibility that the clause might be held to affect practitioners

already on the register. It is impossible to foretell the interpretation that a Judge may put on an Act in the Courts. We learn that the result of the expression of opinion contained in the article has been that the amendment has been re-examined from this point of view, and that it is held that it will not act retrospectively.

As the matter now stands something not very unlike the reform urged by the majority of the members of the New South Wales Branch has been secured. Although this has been included in a temporary measure, we hope that it may be retained permanently, or at all events, until all that is desired in regard to medical education and registration has been obtained.]

THE ROTHERA TEST FOR ACETONE BODIES.

Sir.—In the obituary notice of the late Dr. Rothera it is stated that "the Rothera test for acetone is used in a large number of schools." When doing research work on acetone bodies in urine in 1912 I discovered that the Rothera test for acetone was really a test for diacetic acid and not for acetone. On drawing Dr. Rothera's attention to this matter, he went through his investigations again, and then asked me to explain in my article on the subject how he made the mistake. This I did in an article which appeared in *The Australian Medical Journal*, May 31, 1913, and in the *Lancet*, August 23, 1913. It may be briefly stated that quantitative analysis showed that most urines are diacetic urines, in which a small proportion of the diacetic acid has broken down to form acetone, that diacetic acid gives a stronger reaction to sodium nitro-prusside with a dilution of 1 in 100,000 than acetone does with a dilution of 1 in 10,000, and that the colour is a bluer purple with diacetic acid. Further, a marked reaction for diacetic acid can be obtained with sodium-nitro-prusside, when the ferric chloride test cannot be obtained. As Dr. Rothera has, through my article in both journals, pointed out his initial error, I thought it unfair to one for whom I had so much respect and admiration, to leave the above statement go uncorrected.

Yours, etc.,

Latrobe Terrace.

J. E. PIPER.

Geelong, October 16, 1915.

Medical Appointments.

Dr. W. H. D. Stoddart has been appointed Acting Quarantine Officer at Wallaroo, South Australia, during the absence on leave of Dr. W. H. Harbison.

Dr. J. Nutting has been appointed Quarantine Officer at Busselton, Western Australia, in place of Dr. L. Robertson (resigned).

Dr. V. H. Gordon has been appointed Quarantine Officer at Carnarvon, Western Australia, in place of Dr. J. Hickiebotham (resigned).

Dr. C. G. Thorpe has been appointed Quarantine Officer at Onslow, Western Australia, in place of Dr. A. R. Adams (resigned).

Dr. R. A. C. Atkinson has been appointed Acting Chief Quarantine Officer (General) for Western Australia, in place of Dr. J. W. Hope.

Dr. William Read Conyngham Beeston has been appointed a Member of the Licensing Court for the Licensing District of Dungog, New South Wales.

The following have been appointed Medical Officers to attend the destitute poor and aborigines within the under-mentioned districts of South Australia: Alma Plains, R. McM. Glynn; Balaklava, K. McEwin; Brighton, Alfred Stokes; Campbelltown, E. L. Borthwick; Clare, Otto Wien Smith; Cunningham and Muloowurtie, Hundreds of, D. de C. Browning; Echunga, T. Auricht; Gilbert, R. McM. Glynn; Hamilton, R. McM. Glynn; Maitland, Kilkerran, and Wauraltee, Hundreds of, L. O. Betts; Mannum (ex aborigines), M. W. Sprod; Mudla Wirra North, R. McM. Glynn; Mudla Wirra South, J. R. Tobin; Onkaparinga, E. J. Frayne; Orroroo, Coomooree, Erskine, Black Rock Plain, and Pe-

kina, Hundreds of, R. G. Plummer; Rhynie, R. McM. Glynn; Stanley, Otto Wien Smith; Stockport, R. McM. Glynn; Yatala South, J. Ernest Good.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page ix.

Queen's Memorial Infectious Diseases Hospital, Fairfield, Senior Assistant Medical Officer.

Jundah Hospital, Q., Medical Officer.

Proceedings of the Australasian Medical Boards.

QUEENSLAND.

The following have been registered under the provisions of the "Medical Act of 1867," as duly qualified medical practitioners:—

Bechtel, Friedrich Carl, Brisbane General Hospital, M.B., 1915, Univ. Syd.

Hunter, Lancelot John, Toowoomba Hospital, M.B. 1915, Univ. Syd.

Murphy, Peter James Benjamin, Brisbane General Hospital, M.B., Ch.M. 1915, Univ. Syd.

Nisbet, Alwyn Tom Hays, Townsville, M.B. 1915, Univ. Syd.

Additional Qualification.

Sampson, George Atkin, Maleny, Ch.M. 1915, Univ. Syd.

SOUTH AUSTRALIA.

The following has been registered under the provisions of the "Medical Act of 1880" as a duly qualified medical practitioner:—

Cecil Tanko, M.B., Sydney, 1915.

Books Received.

POTTER'S COMPEND OF HUMAN ANATOMY, revised by D. Gregg Metheny, M.D., L.R.C.P. and S., L.F.P.S., Eighth Edition, 1915. Philadelphia: P. Blakiston's Son & Co.; Demi Svo., with 139 Illustrations, and 16 Plates of the Arteries and Nerves; pp. 428. Price, \$1.

THE DUCTLESS GLANDULAR DISEASES, by Wilhelm Falta, Vienna; Translated and Edited by Milton K. Meyers, M.D., with a Foreword by Archibald E. Garrad, M.D., F.R.C.P., F.R.S., 1915. Philadelphia: P. Blakiston's Son and Co.; Royal Svo., pp. 673. Price, \$7.00. Illustrated.

THE SONGS OF A SENTIMENTAL BLOKE, by C. J. Dennis, 1915. Sydney: Angus and Robertson, Ltd.; demi Svo. pp. 126. Price, 3s. 6d.

Births, Marriages, and Deaths.

The charge for inserting advertisements of Births, Marriages and Deaths is 5s., which sum should be forwarded in money orders or stamps with the notice, not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

ROBERTSON—On October 18, 1915, at Collarenebri, New South Wales, to Dr. and Mrs. F. Gordon Robertson—a son.

Diary for the Month.

- Oct. 30.—Vic. Branch, B.M.A., Nomination Papers for Election to Offices issued (returnable Nov. 10).
- Nov. 4.—North-East. Med. Assoc. (N.S.W.), Grafton.
- Nov. 5.—Queensland Branch, B.M.A., Monthly.
- Nov. 8.—South Australian Branch, Council.
- Nov. 9.—Tasmania Branch, B.M.A., Monthly and Council.
- Nov. 10.—Victorian Branch, B.M.A., Monthly.
- Nov. 10.—Melbourne Pediatric Society.
- Nov. 11.—Victorian Branch, B.M.A., Council.
- Nov. 12.—N.S.W. Branch, B.M.A., Clinical.

- Nov. 16.—N.S.W. Branch, B.M.A., Executive and Finance Committee, Ethics Committee.
- Nov. 17.—Western Australian Branch, B.M.A., Monthly.
- Nov. 19.—Queensland Branch, B.M.A., Council.
- Nov. 24.—Victorian Branch, B.M.A., Council.
- Nov. 25.—South Australian Branch, B.M.A., Monthly.
- Nov. 26.—Melbourne Hospital Clinical Society.
- Nov. 26.—N.S.W. Branch, B.M.A., Ordinary.
- Nov. 30.—Victorian Branch, B.M.A., Eye and Ear Section.
- Nov. 30.—N.S.W. Branch, B.M.A., Organization and Science Committee, Medical Politics Committee.

Important Notice.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
QUEENSLAND. (Hon. Sec. B.M.A. Building, Adelaide Street, Brisbane).	Brisbane United F.S. Institute.
WESTERN AUSTRALIA. (Hon. Sec. 230 St. George's Terrace, Perth).	Swan District Medical Officer. All Contract Practice Appoint- ments in W.A.
NEW SOUTH WALES. (Hon. Sec. 30-34 Elizabeth Street, Sydney).	Arncliffe F.S. Lodges. Australian Natives Association. Balmain United F.S. Dispensary. Burwood District F.S. Institute. Canterbury United F.S. Dispensary. Goulburn F.S. Association. Leichhardt and Petersham Dispensary. M.U. Oddfellows Med. Inst., Eliza- beth Street, Sydney. Marrickville United Friendly Soci- ties' Dispensary. Mullumbimby District Friendly Societies. N.S.W. Ambulance Association and Transport Brigade. N. Sydney United F.S. People's Prudential Benefit Society. Phoenix Mutual Provident Society. F.S. Lodges at Braidwood. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Mudgee. F.S. Lodges at Orange. F.S. Lodges at Parramatta, Penrith, and Auburn. F.S. Lodges at Wellington. Newcastle Collieries— Killingworth. Seaham Nos. 1 and 2. West Wallsend.
SOUTH AUSTRALIA. (Hon. Sec. 3 North Terrace, Adelaide).	The F.S. Medical Assoc. Incorp., Adelaide.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales,